

City of Lodi **Storm Water Management Program**



Revised April 2012

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1. Executive Summary

The Waste Discharge Requirements for Storm Water Discharges from Small Municipal Separate Storm Sewer Systems (Order 2003-0005-DWQ) also known as the Phase II NPDES General Permit required the City of Lodi, and other small municipal separate storm sewer systems (MS4s) to obtain a permit for storm water discharges. The permit required the City to develop and implement a Storm Water Management Program (SWMP) that describes best management practices (BMPs), measurable goals, and timetables for implementation in six program areas: public education and outreach, illicit discharge detection and elimination, public participation/involvement, construction site runoff control, post-construction runoff control, and pollution prevention/good housekeeping. Additionally, the permit requires the MS4 to reduce its discharge of pollutants to the Maximum Extent Practicable (MEP) and perform inspections and monitoring. The following document is the City's SWMP.

The initial BMPs chosen were determined through a series of meetings, both public and internal. No public comments were received following the meeting, and the SWMP was finalized in January 2003.

The City chose to implement key BMPs which are included in Section 6 and on Table 6-1 along with the associated pollutants of concern. The original SWMP was prepared to correspond with the initial Phase II MS4 General Permit term, 2004 through 2008. BMPs identified in the original SWMP have been implemented. Following each year of the permit term, an annual report was prepared and submitted to the Central Valley Regional Water Quality Control Board (CVRWQCB). The annual reports contained information about progress made towards the implementation of the BMPs and any proposed changes to the SWMP.

The State Water Resources Control Board (SWRCB) has delayed reissuing the Phase II MS4 General Permit, which expired on April 30, 2008. In order to address changes with the City's storm water management program and to identify improved control measures for protecting water quality, the City found it necessary to revise this SWMP document in January 2011.

2. Introduction

The passage of the Clean Water Act (CWA) in 1972 led to increased regulations and programs to protect the water quality of the Nation's streams and rivers; however, water quality challenges still exist. According to the United States Environmental Protection Agency, the majority of U.S. waters surveyed are considered to be impaired by at least one of a wide variety of pollutants. The State Water Resources Control Board has found the local water bodies to have the following impairments.

Mokelumne River (Comanche Dam to Delta): copper and zinc

Delta (Central and Eastern Areas): mercury, DDT, diazinon, chlorpyrifos, and other pesticides

Studies have shown storm water runoff to be a significant source of these contaminants. Table 2-1 summarizes the pollutants commonly found in storm water, their sources, and potential impacts.

Table 2-1 - Common storm water pollutants, sources, and possible impacts

Pollutants	Common Sources	Possible Impacts
Nutrients: Nitrogen, Phosphorus	Animal waste, fertilizers, failing septic systems, atmospheric deposition, vehicular deposition	Algal growth, reduced clarity, other problems associated with eutrophication (oxygen deficits, release of nutrients and metals from sediments)
Sediments: Suspended in water column and deposited on bottom of water body	Construction sites, other disturbed and/or non-vegetated lands, eroding banks, road sand	Increased turbidity, reduced clarity, lower dissolved oxygen, deposition of sediments, smothering of aquatic habitats including spawning sites
Organic Materials	Leaves, grass clippings, sugar	Oxygen deficit in receiving waters, fish kills, turbidity
Pathogens: Bacteria and Viruses	Animal waste, failing septic systems, dumpsters	Human health risks associated with drinking supply, consumption of affected shellfish, and swimming beach contamination
Hydrocarbons: Oil and Grease, PAHs such as Napthalene & Pyrenes	Industrial processes, automobile wear, emissions and fluid leaks, waste oil	Toxicity of water column and sediment, bioaccumulation through the food chain
Metals: Lead, Copper, Cadmium, Zinc, Mercury, Chromium, Aluminum, others	Industrial processes, normal wear of auto brake linings and tires, automobile emissions and fluid leaks, metal roofs	Toxicity of water column and sediment, bioaccumulation in aquatic species and through the food chain, fish kills
Synthetic Chemicals: PCBs, Pesticides	Pesticides (herbicides, insecticides, fungicides, rodenticides), industrial processes	Toxicity of water column and sediment bioaccumulation through the food chain, fish kills
Chlorides	Leaching from naturally occurring sources, septic tanks, fertilizers, and pesticides	Toxicity of water column and sediment

Pollutants	Common Sources	Possible Impacts
Trash and Debris	Litter washed through storm drain networks, commercial parking lots adjacent to surface water, overflowing	Degradation of surface water aesthetics, threat to wildlife

Source: Adapted from Minnesota Urban Small Sites BMP Manual

The Mokelumne River drains a portion of the central western slope of the Sierra Nevada Mountains to the Sacramento Delta and serves as a source of water supply for a large portion of Northern California. The City drainage system is bounded by the Mokelumne River on the North; Harney Lane on the South; the CCT Railroad, Kettleman Lane and Highway 99 on the East; and the Woodbridge Irrigation District (WID) Canal and approximately 2,600 feet west of Sacramento Road on the West. The drainage area totals approximately 6,673 acres (10.4 sq. mi.). According to the California Department of Finance, the population of the City is approximately 63,164.

As required by the Phase II MS4 General Permit, the City submitted a Notice of Intent for coverage under the permit and prepared the initial SWMP. The SWMP has three objectives: to prevent pollutants in storm water runoff, to minimize negative impact to the receiving water quality, and to minimize negative impact on the fish and wildlife habitat.

In order to accomplish these objectives, the SWMP is designed to reduce the discharge of storm water pollutants to the Maximum Extent Practicable (MEP), protect water quality, and satisfy the appropriate water quality requirements of the Clean Water Act. The SWMP includes the development of BMPs in each of six categories, an implementation schedule, and measurable goals to help the City meet the above referenced objectives.

Pollutants are exposed to storm water through a variety of urban activities and transported via the City's drainage system to the Mokelumne River and the Delta. Common pollutants found in storm water and addressed by best management practices (BMPs) include pesticides, herbicides, microbiological contaminants, sediments, nutrients, and heavy metals. The Phase II program also places special emphasis on the need to protect storm water from the pollutants introduced through construction site runoff. In compliance with the NPDES Phase II program, the City chose to address the introduction of contaminants through the six general BMP categories outlined in Section 3 of this document.

3. Phase II NPDES Permit Requirements

The City completed a Notice of Intent to apply for coverage under the State's Phase II MS4 General Permit (Order 2003-0005-DWQ). A copy of the MS4 permit is included in **Appendix C**.

The General Permit requires the City to maintain, implement, and enforce an effective SWMP, and develop adequate legal authority to implement and enforce the SWMP, designed to reduce the discharge of pollutants from the permitted MS4 to MEP and to protect water quality. The SWMP serves as the framework for identification, assignment, and implementation of control measures/BMPs. In the annual reports, the City demonstrates the SWMP's effectiveness and provides for necessary and appropriate revisions, modifications, and improvements to reduce pollutants in storm water discharges to the MEP. The SWMP was required to be fully implemented by the expiration of the General Permit (April 30, 2008). The City may incorporate changes required by or acceptable to the RWQCB Executive Officer into applicable revisions to SWMP and adhere to its implementation. The City is required by the permit to maintain, implement, and enforce an effective SWMP designed to reduce the discharge of pollutants from its MS4 to the MEP and to protect water quality. The permit requires the SWMP to describe BMPs, and associated measurable goals that will fulfill the requirements of the following six minimum control measures.

1. Public Education and Outreach on Storm Water Impacts;
2. Public Involvement/Participation;
3. Illicit Discharge Detection and Elimination;
4. Construction Site Storm Water Runoff Control;
5. Post-Construction Storm Water Management in New Development and Redevelopment; and
6. Pollution Prevention/Good Housekeeping for Municipal Operations.

The permit requires the SWMP to identify the measurable goals for each of the BMPs, including, as appropriate, the months and years for scheduled actions, including interim milestones and the frequency of the action. The person or persons who will implement or coordinate the SWMP, as well as each Minimum Control Measure, must be identified in the SWMP.

Table 3-1 - MS4 Phase II General Permit Requirements

Public Education and Outreach	The Permittee must implement a public education program to distribute educational materials to the community or conduct equivalent outreach activities about the impacts of storm water discharges on water bodies and the steps that the public can take to reduce pollutants in storm water runoff.
Public Participation/Involvement	The Permittee must at a minimum comply with State and local public notice requirements when implementing a public involvement / participation program.
Illicit Discharge Detection and Elimination	<p>The Permittee must:</p> <ol style="list-style-type: none"> 1) Develop, implement, and enforce a program to detect and eliminate illicit discharges (as defined at 40 CFR §122.26(b)(2)) into the regulated Small MS4; 2) Develop, if not already completed, a storm sewer system map, showing the location of all outfalls and the names and locations of all waters of the U.S. that receive discharges from those outfalls; 3) To the extent allowable under State or local law, effectively prohibit, through ordinance, or other regulatory mechanism, non-storm water discharges into the MS4 and implement appropriate enforcement procedures and actions; 4) Develop and implement a plan to detect and address non-storm water discharges, including illegal dumping, to the system that are not authorized by a separate NPDES permit; 5) Inform public employees, businesses, and the general public of the hazards that are generally associated with illegal discharges and improper disposal of waste; and 6) Address non-storm water discharges or flows (i.e., authorized non-storm water discharges) only where they are identified as significant contributors of pollutants to the Small MS4.
Construction Site Runoff Control	<p>The Permittee must develop, implement, and enforce a program to reduce pollutants in any storm water runoff to the Small MS4 from construction activities that result in a land disturbance of greater than or equal to one acre. Reduction of storm water discharges from construction activity disturbing less than one acre must be included in the program if that construction activity is part of a larger common plan of development or sale that would disturb one acre or more. The program must include the development and implementation of, at a minimum:</p> <ol style="list-style-type: none"> 1) An ordinance or other regulatory mechanism to require erosion and sediment controls, as well as sanctions, or other effective mechanisms, to ensure compliance, to the extent allowable under State, or local law; 2) Requirements for construction site operators to implement appropriate erosion and sediment control BMPs; 3) Requirements for construction site operators to control waste such as discarded building materials, concrete truck washout, chemicals, litter, and sanitary waste at the construction site that may cause adverse impacts to water quality; 4) Procedures for site plan review which incorporate consideration of potential water quality impacts; 5) Procedures for receipt and consideration of information submitted by the public; and 6) Procedures for site inspection and enforcement of control measures.

Post-Construction Runoff Control	<p>The Permittee must:</p> <ol style="list-style-type: none">1) Develop, implement, and enforce a program to address storm water runoff from new development and redevelopment projects that disturb greater than or equal to one acre, including projects less than one acre that are part of a larger common plan of development or sale, that discharge into the Small MS4 by ensuring that controls are in place that would prevent or minimize water quality impacts;2) Develop and implement strategies, which include a combination of structural and/or non-structural BMPs appropriate for your community;3) Use an ordinance or other regulatory mechanism to address post-construction runoff from new development and redevelopment projects to the extent allowable under State or local law. Lodi is required to incorporate the design standards contained in Attachment 4 of the General Permit or a functionally equivalent program that is acceptable to the appropriate RWQCB; and4) Ensure adequate long-term operation and maintenance of BMPs.
Pollution Prevention/Good Housekeeping	<p>The Permittee must:</p> <ol style="list-style-type: none">1) Develop and implement an operation and maintenance program that includes a training component and has the ultimate goal of preventing or reducing pollutant runoff from municipal operations; and2) Using training materials that are available from U.S. EPA, the State, or other organizations, the program must include employee training to prevent and reduce storm water pollution from activities such as park and open space maintenance, fleet building maintenance, new construction and land disturbances, and storm water system maintenance.

4. Description of Lodi's Storm Water Drainage and Collection System

4.1. The City's Drainage System

The City of Lodi is located in San Joaquin County approximately 6.5 miles north of Stockton and 35 miles south of Sacramento, adjacent to U.S. Highway 99. It covers an area of 10.4 square miles and, according to the California Department of Finance, the population is 63,164. The City provides municipal and public utilities, transportation, leisure, cultural, social services, and general government services. Included in the City's municipal services are storm water and flood control.

The City maintains an intricate, gravity-based storm water system built around a number of storm water detention basins and disposal of runoff by pumping to the Woodbridge Irrigation District (WID) Canal, Lodi Lake, or the Mokelumne River. The detention basins are scattered throughout the City many of which are maintained as parks and recreational facilities during non-runoff periods. The following describes the City's current storm water system and serves as the basis for the Storm Water Management Program.

As of 2010, the City has a total of 3,394 catch basins and 2,193 manholes in its storm water system. The City of Lodi maintains 124 miles of storm water collection and conveyance piping ranging in diameter size from 4 to 72 inches.

The City's storm water drainage system includes 18 storm outlets to the Mokelumne River, Lodi Lake, or the WID Canal. Figure 4-1 and Table 4-1 identify the outlets and their locations throughout the City.

Figure 4-1
City Outfall Locations

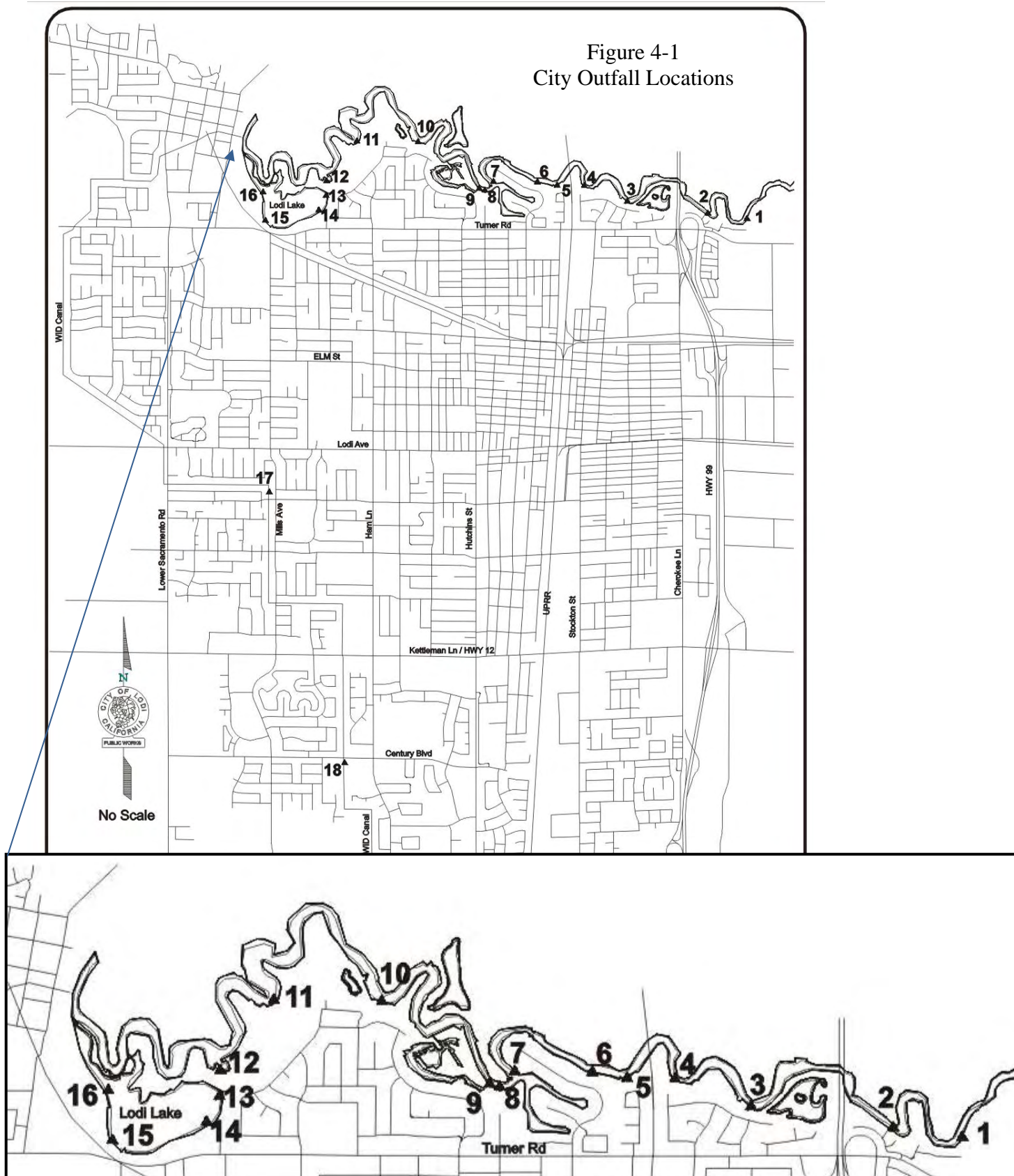


Table 4-1 - Outlet Location Description

Outfall No.	Location	Diameter (in)	Receiving Water
1	Cluff Avenue (adjacent to Central Valley Waste)	72	MR
2	Mobile Home Park	30	MR
3	317 Mokelumne River Drive	48	MR
4	Awani Drive at Mokelumne River Drive		MR
5	Sacramento Street at River (Through RiverPointe Subdivision, #1872)	24	MR
6	1202 Rivergate Drive	30	MR
7	1335 Rivergate Drive	12	MR
8	1051 Lincoln	30	MR
9	1144 Edgewood Drive	18	MR
10	1610 Edgewood Drive	21	MR
11	Ham Lane at Lodi Lake Wilderness	36	MR
12	Pump Station at Wilderness		MR
13	Edgewood Drive at Lodi Lake	21	LL
14	Laurel Avenue at Lodi Lake	8	LL
15	Lodi Lake Pump Station at Mills Avenue		LL
16	Lodi Lake North of Pump Station	54	LL
17	Shady Acres		WID
18	Beckman Pump Station, Century Boulevard at Ham Lane	42	WID

MR – Mokelumne River; LL – Lodi Lake; WID – Woodbridge Irrigation District Canal

Several storm water detention basins are operated by the City to control runoff for events up to a 100-year storm. Many of these detention basins also function as sports facilities (baseball fields, soccer fields, etc.), but their primary purpose is flood control. Table 4-2 summarizes the storm drain basins maintained by the City. A map of outlet locations and drainage system is included in **Appendix B**.

Table 4-2 - Storm Drain System Basin Data

Basin/Park	Tributary Area (acres)	Site Land Area (acres)	Detention Capacity (ac.ft.)
A-1, Kofu	491	12 ¹	41.5
A-2, Beckman	564	16.2 ²	60.0
B-1, Vinewood	964	16.0	41.5
B-2, Graves ³	450	13.2	31.1
C, Pixley ⁴	1,091	27.3	128.6
D, Salas	790	21.0	94.0
E, Peterson	340	20.9	61.0
F (at Kettleman)	369	30.0	68.5
F (near Tokay)			
G (DeBenedetti)	866	46.3	188.3
H (Discharge to River)	428		
I (Undeveloped)	320	25.0	
Total	6,673	227.9	714.5

Italics indicate future or partially complete facilities. ¹Kofu acreage includes park south to tennis courts, excludes Municipal Service Center (MSC) & MSC parking. ²Beckman acreage excludes Fire Station. ³Graves Park formerly Twin Oaks Park. ⁴Pixley volume does not include 7 ac. ft. in Beckman Rd. ditch

Lodi's storm water system is serviced by 49 storm pumps operating at 14 pumping stations, as detailed in Table 4-3. All pumping stations are electrically-powered. Backup auxiliary power is supplied by on-site diesel

emergency generators at Lodi Lake, Shady Acres, Beckman Park, and DeBenedetti Park. The generator at Beckman Park is sized to run concurrently both a well and storm pump located onsite. The City also maintains a portable generator for emergency use.

Table 4-3 - City of Lodi Storm Water Pumps

Station Name	Location	Pump No.	Horsepower	Installed
Salas Park	Near intersection of Century Boulevard and Stockton Street	1, 2	14	October 1983
Cluff Avenue	Near intersection of Cluff Avenue and East Pine Street	1, 2, 3, 4 5, 6	50 14	November 1983 November 1983
Kofu	1300 Block of South Ham Lane	1 2	7 20	February 1969 February 1969
Glaves	2400 Block Oxford Way at Allen Drive	1, 2	2	May 1968
Vinewood	1824 West Tokay Street	1 2, 3, 4	5 30	February 1983 January 1970
Lincoln	1050 Lincoln Avenue	1	20	July 1971
Shady Acres	358 Shady Acres	1, 2, 3 4, 5	40 14	March 1985 March 1985
Beckman	1300 Block of Century Boulevard at Woodbridge Canal	1 2 3 4 5, 6 7, 8, 9	50 30 30 14 14 30	October 1973 September 1975 October 1975 October 1983 November 1989 November 1989
Lodi Lake	2003 West Turner	1 2 3, 4	35 50 50	March 1985 May 1968 September 1968
Turner Road	Intersection of Turner Road and Railroad Underpass	1, 2, 3	5	July 2007
Peterson	Intersection of Evergreen and Elm	1, 2	14	September 1958
Pixley	Vine Street and Beckman Road	1, 2, 3	15	Future
Wilderness	Lodi Lake	1	5	April 1976
Grape Bowl	Stockton	1, 2	10	May 2010
DeBenedetti	DeBenedetti Park, Lower Sacramento	1, 2, 3 4	35 5	March 2012

4.2. Woodbridge Irrigation District Canal

The Woodbridge Irrigation District (WID) Canal is the receiving water for a significant portion of the City's storm water. The Storm Drainage Discharge Agreement (Agreement) between the City and WID serves as the governing document between the two entities and allows the City to discharge storm water into WID Canals. The City is limited to discharging 160 cubic feet per second (cfs), as a maximum winter discharge rate. The maximum winter rate per discharge site is 60 cfs. During the summer, WID uses the canal for irrigation purposes. Therefore, the City's discharge rate is reduced to a maximum of 40 cfs total, not to exceed 20 cfs per discharge site. This can be increased by giving WID notice 12 hours prior to discharge. Under the Agreement, the City has the right to modify the existing Beckman and Shady Acres Pump Stations and to construct additional discharge points to accommodate the service area. Water in the WID Canal can and may be discharged to the Delta making it a potential receiving water.

5. Conveyance System Operations and Maintenance Procedures

5.1. Drainage System Maintenance

The City's Public Works Department maintains the streets and storm drainage system using crews and equipment dispatched out of its Municipal Service Center. City crews patrol, clean, and monitor the streets, drain inlets, manholes, storm sewer system piping, detention basins, pumps, and outfalls.

City storm water system inlets and manholes are opened and inspected as needed based on operational short comings. At the time of inspection, the manholes are cleaned and maintained/repaired as necessary. Storm water catch basins are inspected and cleaned as needed.

The City maintains approximately 124 miles of storm water pipeline within the City. The City's maintenance plan includes cleaning storm sewer piping with a diameter of 10 inches or less on an approximate annual basis and piping with a diameter greater than 10 inches on an as-needed basis. The City does not have specified operations and maintenance procedures for all the pump stations. Maintenance procedures depend on need. The City is not recording hours spent annually maintaining pump stations. The City does not have specified operations and maintenance procedures for all the detention basins. Cleaning after a storm depends on the amount of debris, damage and need.

Storm water outfalls are inspected annually. During the inspection, pictures detailing the condition of the outlet are taken, outlet and area conditions are noted, and maintenance recommendations are documented.

5.2. Street Sweeping

Street sweeping is a regular maintenance activity performed by City employees. The City has experimented with changing the frequency of the sweeping and comparing it to the volume of debris and solids recovered. Through this process, the City has found it to be most effective and cost efficient to use one sweeper truck to sweep most every street once a month or as needed. In addition, major roads and the downtown area are swept weekly. The City also uses a sidewalk sweeper to remove debris from sidewalks and parking areas in the downtown area.

Private property owners are required to sweep their parking lots weekly.














































































6. Storm Water Best Management Practices and Management Program Elements

The following presents the City's plan for implementing each of the six SWMP elements. For each proposed BMP, the City has identified measureable goals, the status of the BMP implementation, and the City position designated for implementing that BMP.

6.1. Overview of the Selected Best Management Practices

The City of Lodi has selected a suite of Best Management Practices (BMPs) which collectively enable the City to meet the State Water Board's Maximum Extent Practicable (MEP) standard as required by the City's MS4 permit. Table 6-1 compares the types of BMPs with the targeted pollutants. Table 6-2 provides a general summary of the BMPs for which detailed information is contained in **Appendix A**. Finally, Table 6-3 shows how the BMPs relate to each of the six SWMP elements.

Table 6-1 - City of Lodi BMPs and Pollutants Addressed

City of Lodi BMP	Category of Pollutant Addressed								
	Nutrients	Sediments	Organic Materials	Pathogens	Hydrocarbons	Metals	Synthetic Chemicals	Chlorides	Trash and Debris
BMP Inspection & Maintenance									
Classroom Education									
Community Car Washing Education									
Community Educational Efforts									
Community Hotline									
Contractor/Inspector Training									
Detention Ponds									
Disposal of Chlorinated Water									
Erosion Control for Construction									
Floatable Debris Control Program									
LID Measures									
Illicit Discharge Detection & Control Programs									
Inlet/Outlet Protection									
Lodi Municipal Code									
Storm Drain Cleaning									
Storm Drain Detectives									
Street Cleaning									

Details of the BMPs and instructions on their implementation can be found in **Appendix A** of the SWMP. Table 6-2 is a brief description of the BMPs.

Table 6-2 - General BMP Description

BMP	Discussion
BMP Inspection and Maintenance	BMP inspection is necessary to ensure BMPs are in proper working order. Generally, inspection and maintenance of BMPs can be categorized into two groups: expected routine maintenance and non-routine maintenance (repair).
Classroom Education	The classroom education BMP involves a variety of activities to promote storm water awareness in local classrooms.
Community Car Washing Education	This practice involves educating the public, businesses, and municipal fleets regarding the water quality impacts of the outdoor washing of automobiles and how to avoid allowing polluted runoff to enter the storm drain system. The City has chosen to pay special attention to the potential impacts of fundraising type carwashes.
Community Educational Efforts	Community education is the key to the success of the Plan. The City's program addresses this BMP through a variety of means including pamphlets, local media, mailers, and classroom contact.
Community Hotline	The City's storm water hotline (209) 368-5735 provides a means for concerned citizens and agencies to contact the appropriate authority when they see water quality problems.
Contractor / Inspector Training	Ensuring that contractors and inspectors are properly trained is key to proper BMP implementation. Contractor training is accomplished through municipally-sponsored training courses, or more informally through compliance inspection visits to transfer information to contractors.
Detention Ponds	This BMP ensures that the City continues to use existing detention basins in their storm water protection strategy.
Disposal of Chlorinated Water	Chlorinated water discharged to surface waters has an adverse impact on local water quality. Proper disposal of chlorinated water must include dechlorination before discharge to a storm drain or it must be discharged to the sanitary sewer system.
Erosion Control for Construction	Erosion control for construction projects is required by contractors through a variety of mechanisms including construction entrances, tire wash facilities, outlet protection, check dams, sediment barriers, inlet protection, and concrete washouts.
Floatable Debris Control Program	Floatable debris represents a significant source of pollution within the City. The City has developed a strategy to control and capture floatable debris which includes the use of equipment and maintenance procedures.
Low Impact Development Measures	Through its Development Standards Plan, the City encourages the use of post-construction storm water control measures that include the use of Low Impact Development (LID).
Illicit Discharge Detection and Control Programs	The objective of an illicit discharge investigation program is to identify and eliminate the discharge of pollutants to the storm water drainage system. Controlling illicit discharges provides important public health benefits as well as ecosystem protection.
Inlet/Outlet Protection	This BMP helps ensure pollutants will be stopped from entering the storm water system and the natural environment.
Lodi Municipal Code	During the previous permit term, Lodi Municipal Code was revised to adequately address the Phase II requirements.
Storm Drain Cleaning	Storm drain systems are cleaned as needed in order to maintain their ability to trap sediment and prevent flooding.
Storm Drain Detectives	Storm Drain Detectives is a collaborative effort of the City of Lodi Public Works Department, State Water Resources Control Board-Division of Water Quality, Lodi Lake Nature Area Docent Council, and four local high schools. On-going monitoring of nine locations along the Mokelumne River and Lodi Lake is done by trained volunteers.
Street Cleaning	This management practice involves employing pavement cleaning practices such as street sweeping on a regular basis to minimize pollutant export to receiving streams.

Specific BMPs and the Phase II NPDES requirements they fulfill are shown in Table 6-3.

Table 6-3 – NPDES Phase II Category-Specific BMPs

	NPDES Phase II Program Categories					
	Public Education and Outreach	Public Participation/ Involvement	Illicit Discharge Detection and Elimination	Construction Site Runoff Control	Post-Construction Runoff Control	Pollution Prevention/ Good Housekeeping
Annual Got SWPPP Storm Water Workshops	X	X	X	X	X	X
Storm Drain Detectives	X	X	X			X
Storm Drain Labeling	X	X	X			X
Detention Ponds					X	X
Storm Water Design Standards Plan and LID Requirements				X	X	
Mokelumne River Watershed Owner's Manual	X	X				X
BMP Inspection and Maintenance			X	X	X	X
Clean-a-curb, Clean-a-park, and Clean-a-campus volunteer programs	X	X				X
Classroom Education	X	X				
Community Car Washing	X	X				X
Storm Water Hotline	X	X	X			
Construction Inspection Program				X		
Disposal of Chlorinated Water Requirement			X			X
Educational Pamphlets and Website	X	X	X			X
Floatable Debris Control		X			X	X
Illicit Discharge Programs		X	X			
Inlet/Outlet Protection	X	X	X	X	X	X
City Ordinances	X	X	X	X	X	X
Street and Storm Drain Cleaning						X
Participation with the San Joaquin Storm Water Quality Partnership	X	X	X	X	X	X

The following presents the City's plan for implementing each of the six SWMP elements. For each proposed BMP, the City has identified measureable goals, the status of the BMP implementation, and the City position designated for implementing that BMP.

6.2. Public Education and Outreach

Education of the public is a vital part of the City's municipal storm water management. It is important the general public be aware of activities and products that jeopardize the quality of storm water runoff and the health of local receiving water bodies. A knowledgeable public will be able to make individual decisions concerning the choice of home maintenance products and activities which reduce the exposure of pollutants to storm water. Changing these individual decision practices will collectively have a significant impact to the City's storm water discharge quality. The following are the methods proposed for educating the public and providing storm water outreach.



Storm Water Detectives Training Program



Environmental Film Contest Poster

Table 6-4 - Public Education and Outreach Program

BMP	MEASURABLE GOALS	SCHEDULE AND STATUS	ASSIGNED TO
Education of the General Public on Storm Water Related Topics and Pollution Prevention via flyers, the City's website, posters, billboards, and/or other mass media methods.	<ol style="list-style-type: none"> 1. Number of flyers distributed 2. Number of hits on the City's storm water website 3. Number of public service advertisements 4. Number of radio or television impressions 	Started implementation in December 2003; on-going	Watershed Education Coordinator
Elementary School Storm Water Education by Encouraging local elementary school teachers and afterschool programs to use the "Trekking the Mokelumne River" watershed curriculum for second through fifth grade classes. Offer training on the curriculum to local teachers.	<ol style="list-style-type: none"> 1. Number of curriculum training sessions offered 2. Number of teachers trained 3. Number of classes where the curriculum was used 4. Number of afterschool programs that used the curriculum 5. Number of children who received the lessons 	Started implementation in December 2003; on-going	Watershed Education Coordinator
Middle School and High School Storm Water Education by involvement in the Storm Drain Detectives, participation in the storm water video contests, and through storm water related field trips.	<ol style="list-style-type: none"> 1. Number of schools involved in SDD 2. Number of students involved in SSD 3. Number of students submitting a video contest entry 4. Number of students who went on a storm water related field trip 	Started implementation in 2001, on-going	Watershed Education Coordinator
Residential outreach through flyers, the Home Owner's Watershed Manual, and the river friendly landscaping & waterwise gardening program. Encourage residents to participate in the UC Extension San Joaquin County Master Gardener's program.	<ol style="list-style-type: none"> 1. Number of residential pollution prevention flyers distributed 2. Number of Home Owner's Watershed Manuals distributed 3. Number of landscaping and gardening resources distributed 4. Number of registered rain gardens in Lodi 5. Number of Lodi residents participating in the Master Gardeners program 	Started to implement in 2008, on-going	Watershed Education Coordinator
Sharing of outreach resources and ideas with other MS4 permittees in the area through participation with the San Joaquin Storm Water Quality Partnership.	<ol style="list-style-type: none"> 1. Number of meetings attended 2. Number of meeting hosted 3. Amount of dollars and hours invested in the group 	Started to implement in June 2004; on-going.	Compliance Engineer

BMP	MEASURABLE GOALS	SCHEDULE AND STATUS	ASSIGNED TO
Business outreach through flyers and seminars.	<ol style="list-style-type: none"> 1. Number of flyers distributed to businesses 2. Number of seminars provided 3. Number of attendees at the seminars 	Started to implement in December 2004; on-going	Compliance Engineer
Community Car Wash Education through educational flyers, encouraging the use of storm water friendly car wash kits, and encouraging community groups to utilize local car wash businesses for fundraising.	<ol style="list-style-type: none"> 1. Number of flyers distributed 2. Number of times the storm water friendly community car wash kit was used 3. Number of fundraisers performed at local car wash businesses 	First implemented on June 2005; on-going	City Staff

6.3. Public Participation/Involvement



Getting the public involved is key to having them take ownership of their watershed and making a connection between their activities and the health of the watershed. The City of Lodi is very proud of its longstanding citizens monitoring program, the Storm Drain Detectives. This student and faculty led group has been in testing local waters since 2000 and has become a model of success for other programs around the State. But, it is not the only way Lodi citizens are involved in their watershed. Table 6-5 describes the on-going public participation programs available in Lodi.



Community Programs such as Coastal Cleanup Day and Storm Drain Detectives Help to Educate the Citizens of Lodi

Table 6-5 - Public Involvement / Participation Program

BMP	MEASURABLE GOALS	SCHEDULE AND STATUS	ASSIGNED TO
Citizen monitoring program using the Storm Drain Detectives; which includes monitoring locations along the Mokelumne River and Lodi Lake. Students and faculty are trained on the monitoring and data collection techniques. Students compile, evaluate, and interpret the monitoring data for an annual presentation made to the public.	<ol style="list-style-type: none"> 1. Number of students involved in SDDs 2. Number of schools involved in SDDs 3. Number of monitoring events 	First implemented in June 2003; on-going	Watershed Education Coordinator
Community clean-up events	<ol style="list-style-type: none"> 1. Number of community cleanup events held 2. Number of persons attending the event 3. Amount of trash, debris, and pollutants removed from the water ways and drainage systems 	First implemented in October 2003; on-going	Watershed Education Coordinator
Storm water complaint hotline	<ol style="list-style-type: none"> 1. Number of storm water related calls received. 2. Number of calls investigated 3. Number of investigations resulting in corrective actions or notices of violation 	First implemented in June 2004; on-going	City Staff
Lodi Lake Docents Program which involves volunteers from the community to provide educational tours of the Lodi Lake nature area and provide watershed protection education.	<ol style="list-style-type: none"> 1. Number of docents 2. Number of new docents 3. Number of individuals who were instructed by docents 	First implemented in December 2005; on-going	Watershed Education Coordinator
Storm Water Video Contest for High School Students	<ol style="list-style-type: none"> 1. Number of students participating in the event 2. Number of local schools represented by the entries 3. Number of video entries 	First implemented in 2008, on-going.	Compliance Engineer

6.4. Illicit Discharge Detection and Elimination

“Only rain down the drain!” is the motto for the City’s storm water program, which specifically is addressed by the Illicit Discharge Detection and Elimination element of the SWMP. The City addresses stopping unwanted discharges through public education, requiring post-construction design measures to capture nuisance flows, and through the following BMPs.



Poster on Illicit Discharges

Table 6-6 - Illicit Discharge Detection and Elimination Program

BMP	MEASURABLE GOALS	SCHEDULE AND STATUS	ASSIGNED TO
Maintain a Storm Drain System Map	Not applicable	First implemented in June 2003, on-going	City Staff
Adopt an Illicit Discharge Ordinance	Not applicable	Ordinances adopted in November 2004	Compliance Engineer
Develop and Implement a plan to address non-storm water discharges and illegal dumping.	<ol style="list-style-type: none"> 1. Number of illicit discharges / spills reported and investigated. 2. Number of NOV's issued for illicit discharges. 3. Number of clean up and abatement cases and amount of costs recovered by the City. 4. Number of cases referred to the RWQCB. 	Plan developed in January 2005; on-going	City Staff
Train City of Lodi Streets Department employees to be able to identify illicit discharges and know how to respond to them.	<ol style="list-style-type: none"> 1. Number of training session offered. 2. Number of employees trained. 3. Number of illicit discharges reported by trained employees. 	On-going	City Staff
Publicize the San Joaquin County Household Hazardous Waste Facility	<ol style="list-style-type: none"> 1. Number of Lodi residents that utilized the San Joaquin Household Hazardous Waste Facility 	On-going	Compliance Engineer

6.5. Construction Site Runoff Control

An important part of preventing pollutants to the MS4 is to control sedimentation from construction sites. The City's BMPs to control pollutants from construction sites include the following:



Effective Track Out Control Measure

Table 6-7 - Construction Site Runoff Control Program

BMP	MEASURABLE GOALS	SCHEDULE AND STATUS	ASSIGNED TO
Adopt a Construction Storm Water Ordinance	Not applicable	Ordinance adopted in December 2004	Compliance Engineer
Provide Construction Storm Water training for site owners, developers, and contractors	<ol style="list-style-type: none"> 1. Number of training events held 2. Number of persons attending the events. 3. Number of materials distributed outside of a training event. 	First implemented in December 2003; on-going	Compliance Engineer
Construction plan review for erosion and sediment controls. Require a SWPPP and proof of a WDID number for construction projects with 1 acre or more of soil disturbance. Implement the CalGreen code by requiring a SWPPP for non-residential projects having soil disturbance less than 1 acre.	<ol style="list-style-type: none"> 1. Number of construction projects having soil disturbance of 1 acre or greater where the SWPPP was reviewed by the City and proof of a WDID number was presented. 2. Number of construction projects with soil disturbance less than 1 acre which were required to have a SWPPP. 	First implemented in December 2005; on-going	Assistant Engineer
From October through April, conduct monthly storm water compliance inspections of construction sites with 1 acre or greater of soil disturbance.	<ol style="list-style-type: none"> 1. Number of months having construction inspections. 2. Number of inspections performed. 3. Number of construction sites inspected. 4. Number of NOV's issued. 5. Number of sites referred to the RWQCB. 	First implemented in December 2003; on-going	City Staff

6.6. Post-Construction Runoff Control

The City of Lodi implemented Attachment 4 of the Phase II MS4 General Permit by preparing a Development Standards Plan (DSP). The DSP requires new development and significant redevelopment occurring within the City to incorporate structural and non-structural control measures to reduce pollutants in storm water. The DSP encourages developers to incorporate low impact development (LID) measures and minimize hydromodification. The following BMPs are included in this SWMP element.

Table 6-8 - Post Construction Storm Water Management in New and Redevelopment

BMP	MEASURABLE GOALS	SCHEDULE AND STATUS	ASSIGNED TO
Adopt a post construction storm water ordinance.	Not applicable	Adopted in December 2004; on-going	Compliance Engineer
Develop and implement a storm water Development Standards Plan (DSP) in accordance with Attachment 4 of the MS4 General Permit. Require all new development and significant redevelopment to comply with the plan. Review DSP submittals.	<ol style="list-style-type: none"> 1. Number of projects subject to the DSP requirements. 2. Percentage of new development project subject to the DSP 3. Percentage of redevelopment projects subject to the DSP 	The DSP was approved by the RWQCB and the Lodi City Council in 2008; on-going implementation	Assistant Engineer
Encourage the use of non-structural LID BMPs in development design.	<ol style="list-style-type: none"> 1. Number of projects incorporating LID and/or non-structural design measures. 2. Percent of total project incorporating LID and/or non-structural design measures. 	As required by the DSP which was implemented in 2008; on-going implementation	Assistant Engineer
Encourage developers to limit hydromodification and achieve a zero net difference of the pre-development and post-development peak flow rates and total volume runoff.	<ol style="list-style-type: none"> 1. Average net difference of peak flow rate for all projects subject to the DSP. 2. Average net total volume difference for all projects subject to the DSP. 	As required by the DSP which was implemented in 2008; on-going implementation	Assistant Engineer

6.7. Pollution Prevention/Good Housekeeping

The City has a workforce committed to keeping Lodi streets not only safe and clean, but also free of contaminants that would flow down the drain. The City performs regularly scheduled street sweeping and maintenance of the storm water drainage system from inlets to outlets. The City maintenance personnel not only keep streets and parking lots clean, but also have an active maintenance program for their own corporation yard. Maintenance personnel receive annual storm water pollution prevention training which covers the following BMPs:



Street Sweeping in an Effective BMP

Table 6-9 - Pollution Prevention/Good Housekeeping

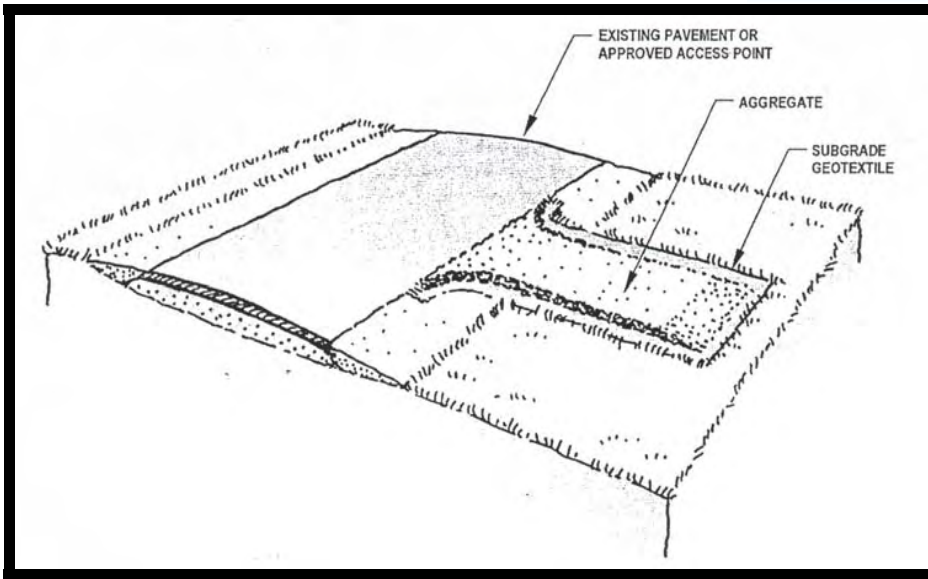
BMP	MEASURABLE GOALS	SCHEDULE AND STATUS	ASSIGNED TO
Develop and maintain a pollution prevention program for the City's Corporation Yard.	<ol style="list-style-type: none"> 1. Develop a Facility Pollution Prevention Plan (FPPP) for the Corporate Yard. 2. Number of corporate yard employees trained on pollution prevention. 3. Amount of pollutants collected by the storm drain inserts. 4. Have no spills of hazardous materials 5. Number of facility pollution prevention inspections performed. 6. Sample one storm water discharge a year, and test for Oil & Grease, pH, Total Suspended Solids, and Conductivity. Obtain analytical results below benchmark values. 	<p>Develop the FPPP by August 1, 2011. Start sampling with the 2011/2012 storm season.</p> <p>On-going pollution prevention measures.</p>	City Staff
Streets storm sewer inlet and manhole maintenance.	<ol style="list-style-type: none"> 1. Number of storm sewer inlets and manholes cleaned. 2. Estimated amount (pounds) of pollutants removed from the inlets and manholes. 	As needed	City Staff
Storm sewer catch basin maintenance.	<ol style="list-style-type: none"> 1. Number of catch basins cleaned. 2. Estimated amount (pounds) of pollutants removed from the catch basins. 	As needed	City Staff

City of Lodi
Storm Water Management Program

BMP	MEASURABLE GOALS	SCHEDULE AND STATUS	ASSIGNED TO
Storm sewer pipeline maintenance	<ol style="list-style-type: none"> 1. Number of linear feet of storm pipe cleaned. 2. Estimated amount (pounds) of pollutants removed from the system piping. 	Approx. annually for piping with diameters 10 inches or less and on an as-needed basis for piping with diameter greater than 10 inches	City Staff
Perform street sweeping.	<ol style="list-style-type: none"> 1. Number of curb-miles swept during the year; and average curb-miles each week. 2. Man-hours spent sweeping 3. Amount of solids removed from the streets and parking lots. 	Sweep residential streets up to once per month. Sweep parking lots and alleys up to once per month. Sweep downtown area up to once per week Sweep major roadways up to once per month.	City Staff
Pump station maintenance	<ol style="list-style-type: none"> 1. Number of pump stations cleaned. 2. Estimated amount (pounds) of pollutants removed from the pump stations. 	Clean out pump stations as necessary to prevent storm sewer backup and flooding.	City Staff
Detention basin maintenance	<ol style="list-style-type: none"> 1. Number of catch basins cleaned. 2. Estimated amount (tons) of sediment removed from the detention basins. 	Clean out and maintain detention basins as necessary to ensure proper function.	City Staff
Green waste management – Encourage residents to place green wastes in the carts provided to them by the waste contractor. Schedule fall pickup around rain event to the extent practicable.	<ol style="list-style-type: none"> 1. Amount of green waste (tons) collected from residents. 2. Amount of green waste / leaves (tons) collected from City streets. 	On going, all residents have been provided with carts by the waste recycler	City Staff
Pesticide and fertilizer pollution prevention program - Develop and implement program for municipal employees that use these materials.	<ol style="list-style-type: none"> 1. Number of employees trained on proper fertilizer and pesticide use. 2. Amount of fertilizers and pesticides used as compared to the previous year's totals. 	July 2004, on-going	City Staff

APPENDIX A
DESCRIPTION OF BMPS

Construction Entrance



Description:

A stabilized aggregate pad, placed at construction site ingress/egress locations, that reduces the amount of sediment transported onto paved roads by vehicles or runoff.

Advantages:

- ⇒ Reduces traffic hazards caused by debris on public roadways.
- ⇒ Reduces sediment on roadways that can wash into the storm sewer system.

Disadvantages:

- ⇒ Only effective if erosion and sediment control employed elsewhere onsite.
- ⇒ Only works if installed at every location where significant construction traffic leaves the site.
- ⇒ Fills with sediment quickly and requires frequent maintenance and/or replacement of rock.
- ⇒ A common problem is poor installation which can include inadequate depth and length of rock and the failure to replace rock when voids are filled with sediment.

Applications:

- ⇒ Wherever traffic will be leaving a construction site at a rate of at least 25 trips per day and traveling on paved roads or other paved areas located within 100 feet of the site.
- ⇒ Sites in which permits require gravel, paved or constructed entrances, exits and parking areas to reduce the tracking of sediments onto public or private roads.

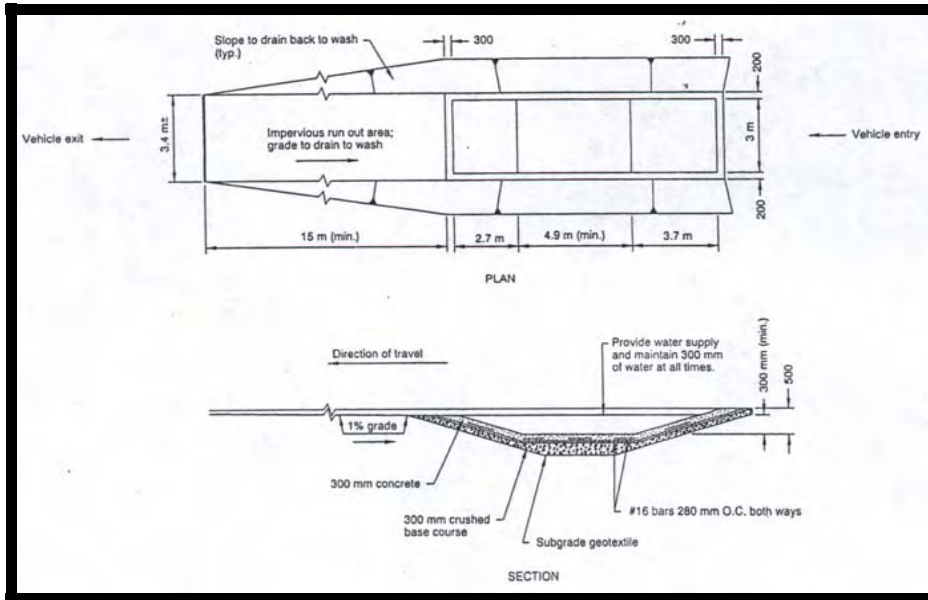
Design Criteria:

- ⇒ Minimum length:
 - * 50 feet for drainage areas having less than one acre of exposed soil.
 - * 100 feet for drainage areas having more than one acre of exposed soil.
- ⇒ Minimum width: 20 feet.
- ⇒ Minimum aggregate depth: 7 inches
- ⇒ Install at construction entrances before beginning grading.
- ⇒ Whenever possible, construct the pad on a firm, compacted subgrade.
- ⇒ Place a geotextile under the aggregate on surfaces when fine sediment under the pad could “pump” up and into the pad.
- ⇒ Do not install aggregate on paved surfaces.
- ⇒ Install fencing as necessary to restrict construction vehicle traffic to the construction entrance.
- ⇒ Include a tire wash if the entrance does not prove effective in retaining sediment onsite. This determination will need to be made on a project specific basis.

Maintenance:

- ⇒ Immediately sweep up and remove or stabilize any sediment that is tracked onto pavement.
- ⇒ If the sediment poses a threat to public safety and street sweeping proves ineffective, consider washing the street and collecting the water in a sediment pond or sump before it leaves the site.
- ⇒ Add aggregate as needed to maintain the specified dimensions.
- ⇒ Immediately remove any aggregate which gets carried from the pad to the roadway.
- ⇒ Maintain fencing installed as traffic control.

Tire Wash Facility



Description:

Two types of tire wash facilities are available depending on the severity of sediment tracking and the size of the project. Type 1 is a stabilized gravel pad similar to a stabilized construction entrance which is graded or otherwise constructed to collect wash water and convey it to a sediment trap, basin or other suitable treatment facility. Type 2 consists of a shallow concrete lined basin partially filled with water, through which exiting vehicles drive.

Advantages:

- ⇒ Reduces traffic hazards caused by debris on public roadways.
- ⇒ Reduces sediment on roadways, which can wash into the storm sewer system.
- ⇒ Type 1 is easy to construct and is relatively inexpensive.
- ⇒ Type 2 is useful for high traffic volumes or large projects of long duration.

Disadvantages:

- ⇒ Only works if installed at every location where construction traffic leaves the site.
- ⇒ Fills with sediment quickly and requires frequent maintenance.
- ⇒ Requires a source of wash water.
- ⇒ Requires a turnout of doublewide exit to avoid entering vehicles having to drive through wash area.
- ⇒ Type 1 requires labor to wash the tires of all vehicles exiting the site.
- ⇒ Type 2 is costly to construct and will generate large volumes of sediment-laden water, requiring treatment elsewhere on site.

Applications:

- ⇒ Wherever traffic will be leaving a construction site and traveling on paved roads or other paved areas located within 100 feet of the site.
- ⇒ Where sediment removal on a stabilized construction entrance alone is inadequate to prevent tracking.

Design Criteria:

- ⇒ Type 1: minimum length = 50 feet, minimum width = 20 feet, minimum aggregate depth = 7 inches, must place geotextile under the aggregate when fine sediment under the pad could "pump" up and into the aggregate pad; install fencing as necessary to restrict exiting construction vehicle traffic to the tire wash; and grade the pad to drain to suitable collection and treatment facility.
- ⇒ Type 2: basin dimensions 40 feet long by 10 feet wide with sloping ingress and egress, and 50 foot long impervious runout area at ingress which drains into basin; line bottom of basin with geotextile and 1 foot of aggregate base coarse; construct basin out of 1 foot concrete with steel reinforcement; provide water supply; provide outlet for sediment-laden water discharge to treatment facility or provide pumps and tanks for water treatment.

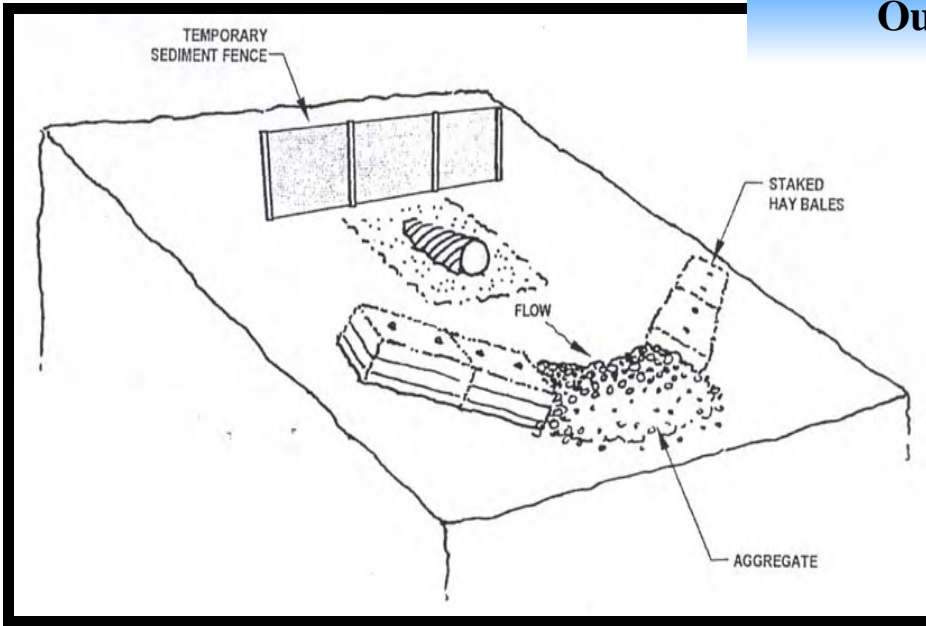
Maintenance:

- ⇒ Type 1: wash aggregate pad when sediment clogs aggregate, add or re-grade aggregate as needed, immediately remove any aggregate that gets carried from the pad to the roadway, and ensure that wash water drainage, collection and treatment system is functioning.
- ⇒ Type 2: remove/discharge wash water as needed, remove accumulated sediment from bottom of basin, and ensure that wash water drainage, collection and treatment system is functioning.

Common failure:

The most common problem with this Best Management Practice is failure to maintain the facility.

Outlet Protection



Applications:

At the outlets of ponds, pipe slope drains, ditches, or other conveyances, and where runoff is conveyed to a natural or man-made drainage feature such as a stream, wetland, lake, or ditch.

Design Criteria:

Use the standard detail for outlet protection as a minimum. Consider site conditions to determine if a more complex energy dissipater may be required.

Maintenance:

- ⇒ If there is scour at the outlet, protect the eroded area by increasing the size of the energy dissipater facility.
- ⇒ Remove accumulated sediment frequently.

Common Failures:

The most common problem with this Best Management Practice is underdesign, failure to remove accumulated sediment, and rock that is too small and/or is not angular enough for the runoff velocities (river run or rounded rock is not adequate).

Description:

Outlet protection reduces the speed of concentrated flow, thereby preventing scour at stormwater and conveyance outlets. By dissipating energy, outlet protection lowers the potential for downstream erosion. Outlet protection includes riprap-lined basins, concrete aprons, and settling basins.

Advantages:

- ⇒ Many techniques are effective and relatively inexpensive and easy to install.
- ⇒ Removes sediment and reduces velocity.

Disadvantages:

- ⇒ Can be unsightly.
- ⇒ May be difficult to remove sediment without removing and replacing the structure itself.
- ⇒ Rock outlets with high velocity flows may require frequent maintenance.





Check Dam

Applications:

- ⇒ Check dams should be used in swales or channels that will be used for a short period of time where it is not practical to line the channel or implement other flow control practices. In addition, check dams are appropriate where temporary seeding has been recently implemented but has not had time to take root and fully develop.
- ⇒ Check dams are usually used in small open channels with a contributing drainage area of 2 to 10 acres. For a given swale or channel, multiple check dams, spaced at appropriate intervals, can increase overall effectiveness.

Design Criteria:

- ⇒ Check dams can be constructed from rock, logs, sandbags, straw bales, etc. When using rock or stone, the material diameter should be 2 to 15 inches. Logs should have a diameter of 6 to 8 inches. Dams should be installed with careful placement of the construction material as mere dumping of the dam material into a channel will reduce overall effectiveness.
- ⇒ All check dams should have a maximum height of 3 feet. The center of the dam should be at least 6 inches lower than the edges. This design creates a weir effect that helps to channel flows away from the banks and prevent further erosion. Additional stability can be achieved by implanting the dam material approximately 6 inches into the sides and bottom of the channel. When installing more than one check dam in a channel, outlet stabilization measures should be installed below the final dam in the series. Because this area is likely to be vulnerable to further erosion, riprap, geotextile lining, or some other stabilization measure is highly recommended.

Maintenance Considerations:

- ⇒ Check dams should be inspected after each storm event to ensure continued effectiveness.
- ⇒ Large debris, trash, and leaves should be removed.
- ⇒ The center of a check dam should always be lower than its edges. If erosion or heavy flows cause the edges of a dam to fall to a height equal to or below the height of the center, repairs should be made immediately.
- ⇒ Accumulated sediment should be removed from the upstream side of a check dam when the sediment has reached a height of approximately one half the original height of the dam (measured at the center).

Description:

Check dams are small, temporary dams constructed across a swale or channel. Check dams can be constructed using gravel, rock, sandbags, logs, or straw bales and are used to slow the velocity of concentrated flow in a channel to reduce the erosion in the swale or channel. As a secondary function, check dams can also be used to catch sediment from the channel itself or from the contributing drainage area as storm water runoff flows through the structure.

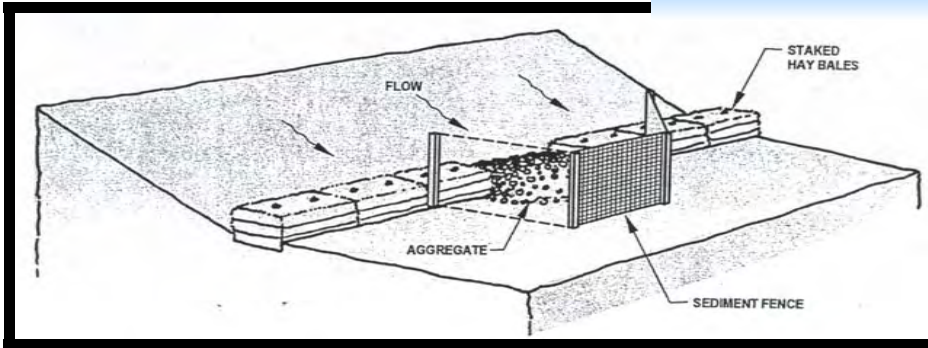
Advantages:

- ⇒ Reduces the energy of storm water to reduce erosion.
- ⇒ May aerate water as it passes the check dams.
- ⇒ Some pre-fabricated check dams are reusable.
- ⇒ Promotes settling of sediment in runoff.
- ⇒ Inexpensive and easy to install.

Disadvantages:

- ⇒ Check dams should not be used in live, flowing streams unless approved by an appropriate regulatory agency.
- ⇒ They should not be used as a stand-alone substitute for other sediment-trapping devices.
- ⇒ Leaves have been shown to be a significant problem by clogging check dams in the fall. Therefore, they may require increased inspection and maintenance.
- ⇒ May create turbulence downstream, causing erosion of the channel banks.

Straw Bale or Roll Sediment Barriers



Description:

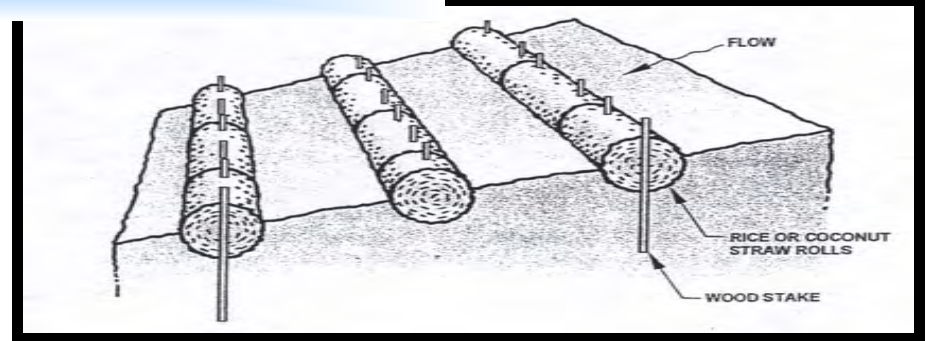
- ⇒ A temporary sediment barrier consisting of a row of entrenched and anchored straw bales with check dams at low points. Straw bale sediment barriers trap small amounts of sediment by decreasing sheet-flow and low-moderate channel flow velocities. Water is channeled through the aggregate weir and sediment fence is used to trap sediment that has moved through the weir.
- ⇒ Straw rolls are manufactured from straw that is wrapped in tubular plastic netting. They are approximately 1 foot in diameter by 25 to 30 feet long. Straw rolls are placed in shallow trenches and staked along the contour of newly constructed or disturbed slopes.

Advantages:

- ⇒ Bales are a relatively inexpensive method of sediment control.
- ⇒ Rolls can often replace sediment fences or bales on steep slopes.
- ⇒ Rolls store more moisture for vegetation planted immediately upslope.
- ⇒ May be left in place to biodegrade and/or photodegrade.
- ⇒ Straw becomes incorporated into the soil with time, adding organic material to the soil and retaining moisture for vegetation.
- ⇒ Reduces runoff velocity.
- ⇒ Requires minimal ground disturbance to install.
- ⇒ Light weight and easy to install.

Disadvantages:

- ⇒ Bales are effective approximately 3 months and rolls only function for one or two seasons.
- ⇒ Misuse or incorrect installation can contribute to sediment loading.
- ⇒ Difficult to tell if bales are properly installed.
- ⇒ Heavy and hard to move when wet.
- ⇒ Improper placement and/or installation can allow undercutting and end-flow and rolls may fail during the first rain event.
- ⇒ Low sediment retaining capacity of rolls may require frequent maintenance.
- ⇒ Rolls may require extra maintenance to ensure that the stakes are holding and the rolls are still in contact with the soil (especially on steep slopes).



Applications:

- ⇒ Bales can be used below areas subject to sheet and rill erosion. Slopes should be 1:2 or flatter.
- ⇒ Rolls can be used to capture and retain sediment on slopes, temporarily stabilize slopes by reducing soil creep and sheet and rill erosion until permanent vegetation can get established, and control erosion from entering paved areas (like sidewalks).

Design Criteria:

- ⇒ Bales: Contributing drainage should be less than 0.75 acre per 300 feet of bale length. Bales should be placed in a single row, lengthwise, oriented perpendicular to the flow, and with ends of adjacent bales tightly abutting one another. Each bale shall be embedded in the soil a minimum of a half inch. Use straw, rocks, or filter fabric to fill any gaps between the bales and tamp the backfill material to prevent erosion under or around the bales. The bales should be anchored in place by two wooden stakes or rebar driven through the bales.
- ⇒ Rolls: Slopes must be prepared before rolls are installed. Rills and shallow gullies should be smoothed as work progresses. Dig small trenches across the slope on contour to place rolls in. Start building trenches and install rolls from the bottom of the slope and work up. It is critical that rolls are installed perpendicular to water movement, parallel to the slope contour. Use a straight bar to drive holes through the roll and into the soil for the willow or wooden stakes.

Maintenance:

- ⇒ Inspect the bales or rolls periodically during the winter and after significant storms. Repairs and/or replacement shall be made promptly.
- ⇒ Sediment shall be removed when it has reached 1/3 height of the bales.
- ⇒ Replace deteriorated bales.
- ⇒ Make sure the rolls are in contact with the soil during inspections.
- ⇒ Repair any rills or gullies promptly.
- ⇒ Re-seed or replant vegetation if necessary until the slope is stabilized.

Grass-lined Swale



Description:

The term swale (a.k.a. grassed channel, dry swale, wet swale, biofilter) refers to a series of vegetated, open channel management practices designed specifically to treat and attenuate storm water runoff for a specified water quality volume. As storm water runoff flows through these channels, it is treated through filtering by the vegetation in the channel, filtering through a subsoil matrix, and/or infiltration into the underlying soils. Variations of the grassed swale include the grassed channel, dry swale, and wet swale. The specific design features and methods of treatment differ in each of these designs, but all are improvements on the traditional drainage ditch. These designs incorporate modified geometry and other features for use of the swale as a treatment and conveyance practice.

Advantages:

- ⇒ Can be used along roadsides or parking lots to collect and treat stormwater runoff. Capture a great deal of sediment due to the filtering effect of vegetation.
- ⇒ Do not generate high velocity runoff and offer temporary slope protection.
- ⇒ Usually easy to install.

Disadvantages:

- ⇒ Grassed swales cannot treat a very large drainage area.
- ⇒ Wet swales may become a nuisance due to mosquito breeding.
- ⇒ If designed improperly (e.g., if proper slope is not achieved), grassed channels will have very little pollutant removal.
- ⇒ A thick vegetative cover is needed for these practices to function properly.

Applications:

Grassed swales can be applied in most situations with some restrictions. Swales are very well suited for treating highway or residential road runoff because they are linear practices. Grassed swales can be applied in most regions of the country. In arid and semi-arid climates, however, the value of these practices needs to be weighed against the water needed to irrigate them. Grassed swales are generally not well suited to ultra-urban areas because they require a relatively large area of pervious surfaces.

Design Criteria:

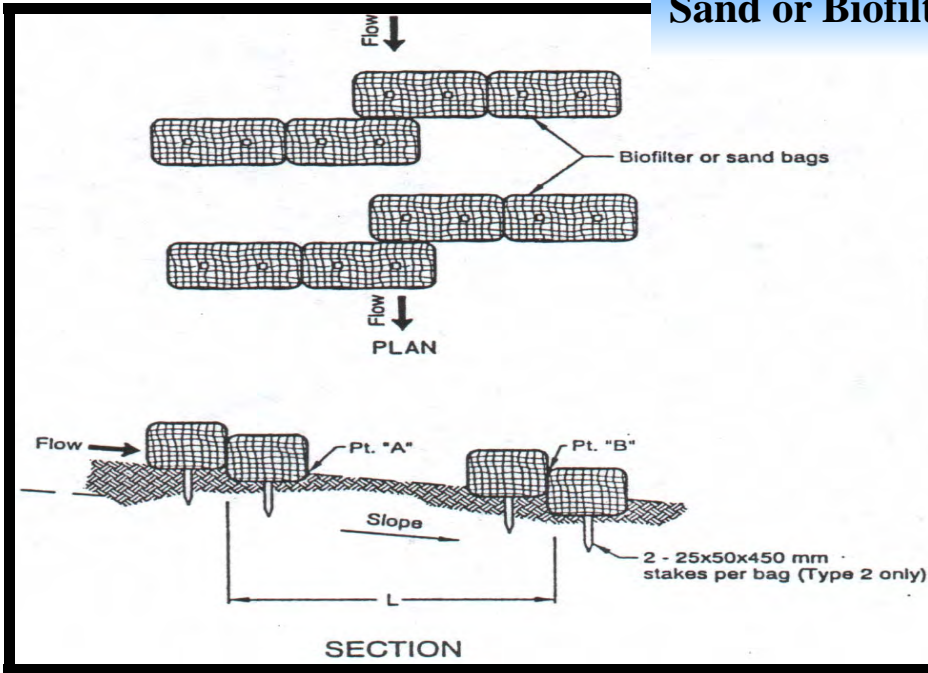
- ⇒ Swales should generally have a trapezoidal or parabolic cross section with relatively flat side slopes (flatter than 3:1). The wetted perimeter is the length along the edge of the swale cross section where runoff flowing through the swale is in contact with the vegetated sides and bottom of the swale. The minimum width ensures a minimum filtering surface for water quality treatment, and the maximum width prevents braiding, the formation of small channels within the swale bottom.
- ⇒ A small forebay should be used at the front of the swale to trap incoming sediments. A small trench filled with river run gravel should be used as pretreatment for runoff entering the sides of the swale.
- ⇒ A flat longitudinal slope (generally between 1 percent and 2 percent) and a dense vegetative cover in the channel should be used to help to reduce the velocity of flow in the channel. During construction, it is important to stabilize the channel before the turf has been established, either with a temporary grass cover or with the use of natural or synthetic erosion control products.

Maintenance:

- ⇒ Inspect pea gravel diaphragm for clogging and correct the problem.
- ⇒ Inspect grass along side slopes for erosion and formation of rills or gullies and correct.
- ⇒ Remove trash and debris accumulated in the inflow forebay.
- ⇒ Inspect and correct erosion problems in the sand/soil bed of dry swales.
- ⇒ Based on inspection, plant an alternative grass species if the original grass cover has not been successfully established.
- ⇒ Replant wetland species (for wet swale) if not sufficiently established.
- ⇒ Rototill or cultivate the surface of the sand/soil bed of dry swales if the swale does not draw down within 48 hours.
- ⇒ Remove sediment build-up within the bottom of the swale once it has accumulated to 25 percent of the original design volume.
- ⇒ Mow grass to maintain a height of 3–4 inches.

Source: EPA website. Office of Water. National Menu of Best Management Practices for Storm Water Phase II. July 1, 2002. <http://www.epa.gov/npdes/menuofbmps/menu.htm>

Sand or Biofilter Bag Sediment Barriers



Description:

- ⇒ Biofilter bags are manufactured from 100% recycled wood-product waste placed in plastic mesh bags. They are typically 2.5 feet long by 1.5 feet wide and weigh approximately 44 pounds.
- ⇒ Sandbags are manufactured from durable, weather resistant, tightly woven material sufficient to prohibit leakage of the filter material. The bags should measure 2 feet long by 1 foot by a half foot and be filled with firmly packed sand weighing at least 75 pounds.

Advantages:

- ⇒ Bags are easy to move, replace and reuse on paved surfaces.
- ⇒ Bags are good short-term solution in situations where concentrated flows are causing erosion (can be stuffed or staked in developing rills).
- ⇒ Installation is simple, can be done by hand, and at relatively low cost.
- ⇒ Biofilter bags can be used in place of sediment fences or straw bales on slopes and the wood-product can be recycled or used on site when no longer needed.
- ⇒ Sand bags can be used to divert and slow velocity of small flows, and to capture sediment in concrete lined ditches.

Disadvantages:

- ⇒ Generally effective for only a few months.
- ⇒ Can be easily damaged by construction equipment or by traffic in paved areas.
- ⇒ Sand bags can contribute sediment to runoff if bags rupture.
- ⇒ Biofilter bags can become clogged with sediment and cease to filter runoff.

Applications:

- ⇒ To capture and retain sediment on slopes.
- ⇒ To capture sediment around drain inlets.
- ⇒ To capture sediment and reduce water velocity on paved streets.
- ⇒ To capture sediment and reduce water velocity in unlined and lined channels, swales or ditches.
- ⇒ Can be placed in developing rills or gullies to capture sediment and reduce water velocity

Design Criteria:

- ⇒ On slope applications, it should be installed on contour.
- ⇒ Ends of bags must be tightly abutted and overlapped to direct flow away from bag joints.
- ⇒ Install two stakes per biofilter bag.
- ⇒ Stakes are not needed in paved areas.

Maintenance:

- ⇒ Inspect bag installations after storms. Check that stakes are secure and ends of bags are tightly abutted. Check that undercutting or end-flow is not occurring.
- ⇒ Check that flow is not becoming channeled behind bags (parallel to row of bags).
- ⇒ Inspect plastic mesh for tears on biofilter bags.
- ⇒ Remove sediment accumulated behind bags when sediment reaches one-third of the barrier height.
- ⇒ Replace damaged bags as needed.

Common Failures:

- ⇒ Failures most commonly result from bags not being tightly abutted together or properly staked, which allows flow between or under the bags causing rilling.
- ⇒ Failure occurs when the bags are not installed on contour and water flow becomes channeled behind the bags.
- ⇒ Sandbags can also be dislodged when placed in high velocity flows.

Inlet Protection



Description:

Storm drain inlet protection measures are controls that help prevent soil and site erosion debris from entering storm drain drop inlets. Typically, these measures are temporary controls that are implemented prior to large-scale disturbance of the surrounding site. These controls are advantageous because their implementation allows storm drains to be used during the early stages of construction activities. The early use of storm drains during project development significantly reduces the occurrence of future erosion problems.

Advantages:

- ⇒ Reduces amount of sediment leaving the site.
- ⇒ Prevents sediment from entering the storm drain system.

Disadvantages:

- ⇒ Should not be used as stand-alone sediment control measures. Should be used with other measures, such as small impoundments or sediment traps.
- ⇒ Temporary storm drain inlet protection is not intended for use in drainage areas larger than 1 acre.
- ⇒ Only practical for relatively low-sediment, low-volume flows.
- ⇒ Frequent maintenance is necessary to prevent clogging. If sediment and other debris clog the water intake, drop intake control measures can actually cause erosion in unprotected areas.
- ⇒ Short-circuiting of flow may occur if not properly installed.

Applications:

- ⇒ Drainage area no greater than 1 acre per inlet.
- ⇒ Excavated drop inlet protection and block and gravel inlet protection for areas of high flow where overflow is anticipated into the storm drain.
- ⇒ Fabric barriers are recommended for smaller, relatively flat drainage areas (slopes less than 5 percent leading to the storm drain). Temporary drop inlet control measures are often used in combination with each other and other storm water control techniques.

Design Criteria:

These controls should be installed before any soil disturbance in the drainage area.

- ⇒ Excavation around drop inlets should be dug a minimum of 1 foot deep (2 feet max) with a minimum excavated volume of 35 yd³ per acre disturbed. Side slopes leading to the inlet should be no steeper than 2:1. The shape of the excavated area should be designed such that the dimensions fit the area from which storm water is anticipated to drain.
- ⇒ Fabric inlet protection should be staked close to the inlet to prevent overflow on unprotected soils. Stakes should be used with a minimum length of 3 feet, spaced no more than 3 feet apart. A frame should be constructed for fabric support during overflow periods and should be buried at least 1 foot below the soil surface and rise to a height no greater than 1.5 feet above ground. The top of the frame and fabric should be below the down-slope ground elevation to prevent runoff bypassing the inlet.
- ⇒ Block and gravel inlet barrier height should be 1 foot minimum (2 feet max), and mortar should not be used. The bottom row of blocks should be laid at least 2 inches below the soil surface flush against the drain for stability. One block in the bottom row should be placed on each side of the inlet on its side to allow drainage. Wire mesh (1/2 inch) should be placed over all block openings to prevent gravel from entering the inlet, and gravel (3/4 to 1/2 inch in diameter) should be placed outside the block structure at a slope no greater than 2:1.

Maintenance:

All temporary control measures must be checked after each storm event. To maintain the sediment capacity of the shallow settling pools created from these techniques, accumulated sediment should be removed from the area around the drop inlet (excavated area, around fabric barrier, or around block structure) when the sediment capacity is reduced by approximately 50 percent. Additional debris should be removed from the shallow pools on a periodic basis. Weep holes in excavated areas around inlets can become clogged and prevent water from draining out of shallow pools that form. Should this happen, unclogging the water intake may be difficult and costly.

Source: EPA website. Office of Water. National Menu of Best Management Practices for Storm Water Phase II. July 1, 2002. <http://www.epa.gov/npdes/menuofbmps/menu.htm>



Concrete Washout

washout operations.

- ⇒ Plastic lining material shall be a minimum of 60 mil polyethylene sheeting and shall be free of holes, tears, or other defects that compromise the impermeability of the material.

Temporary Concrete Washout Facility (Below Grade)

- ⇒ The recommended minimum length and minimum width of 10 feet with sufficient quantity and volume to contain all liquid and concrete waste generated by washout operations.

Disposal Options:

- ⇒ Allow the solids to settle in the containers used to store the concrete waste.
- ⇒ The water at the top of the settled solids may have an unacceptably high pH and should not be discharged to the storm drain system.
- ⇒ Decant the clear water from the top of the settled solids to the wash rack or other area that drains to the sanitary sewer.
- ⇒ If no sanitary sewer is available, allow the water to evaporate. A pit may be constructed as described above for evaporation.
- ⇒ Allow the settled solids to dry. Recycle concrete waste material, if possible, or dispose as solid waste in the trash dumpster.

Description:

Concrete waste has potential to raise the pH of water and runoff sediment. When washing concrete off equipment and other materials, care must be taken to minimize the environmental impact by minimizing and containing the washout runoff.

Guidelines:

Concrete washouts should minimize water use and be performed in designated areas only (at least 50 feet away from any drainage facility or watercourse).

Tips for Containment:

- ⇒ Use a 55-gallon drum or other appropriate container large enough to completely contain the liquid and solid concrete waste. Make sure the drum lid is secure during transportation.
- ⇒ Construct a temporary pit away from drain inlets that will completely contain the concrete waste. This can be done by digging a hole in the ground, or by constructing a bermed area using sand bags or straw bales. Be sure to check with your supervisor before placing concrete waste on the ground. There may be local requirements or other environmental restrictions regarding concrete waste disposal.
- ⇒ Plastic bags can be used if nothing else is available. Avoid breaking the bags open by double-bagging and only filling the bags to about 1/5 of their capacity.

Temporary Concrete Washout Facility (Above Grade)

- ⇒ The recommended minimum length and minimum width of 10 feet with sufficient quantity and volume to contain all liquid and concrete waste generated by

Discharge to Storm Water Drainage System Prevention:

- ⇒ Avoid conducting concrete work while it is raining.
- ⇒ Protect downstream drain inlets during concrete paving, coring, drilling, cutting, mudjacking, and sawcutting activities.
- ⇒ Shovel or vacuum concrete residue into appropriate containers.
- ⇒ Remove excess material from the roadway where practical.
- ⇒ Use an appropriate container to capture excess material when cleaning out equipment.
- ⇒ Transport excess material back to the maintenance facility or approved storage site.

Removal of Facilities

When temporary concrete facilities are no longer required, the hardened concrete shall be removed and disposed of.

Holes, depressions or other ground disturbance caused by the removal of the temporary concrete washout facilities shall be backfilled and repaired.

Temporary concrete washout facilities shall be maintained to provide adequate holding capacity with a minimum freeboard of 4 inches for above grade facilities and 12 inches before grade facilities.

Existing facilities must be cleaned, or new facilities must be constructed and ready for use once the washout is 75% full.





Dry Extended Detention Pond

Description:

Dry extended detention ponds (a.k.a. dry ponds, extended detention basins, detention ponds, extended detention ponds) are basins whose outlets have been designed to detain the storm water runoff from a water quality design storm for some minimum time (e.g., 24 hours) to allow particles and associated pollutants to settle. Unlike wet ponds, these facilities do not have a large permanent pool. However, they are often designed with small pools at the inlet and outlet of the basin. They can also be used to provide flood control by including additional flood detention storage.

Advantages:

- ⇒ Provides flood control, channel protection, as well as some pollutant removal.
- ⇒ Least expensive storm water management practice (per unit area treated).

Disadvantages:

- ⇒ Have only moderate pollutant removal when compared to other structural storm water practices, and they are ineffective at removing soluble pollutants.
- ⇒ May become a nuisance due to mosquito breeding.
- ⇒ Habitat destruction may occur during construction if the pond is designed in-stream or within the stream buffer.
- ⇒ Although wet ponds can increase property values, dry ponds can actually detract from the value of a home.
- ⇒ Dry extended detention ponds on their own only provide peak flow reduction and do little to control overall runoff volume, which could result in adverse downstream impacts.

Applications:

Dry extended detention ponds are among the most widely applicable storm water management practices. Although they have limited applicability in highly urbanized settings, they have few restrictions.

- ⇒ Dry extended detention ponds can be applied in all regions of the United States. Some minor design modifications might be needed, however, in cold or arid climates or in regions with karst (i.e. limestone) topography.
- ⇒ Ultra-urban areas, where little pervious surface is present, it is difficult to use dry extended detention ponds in the ultra-urban environment because of the land area each pond consumes. They can, however, be used in an ultra-urban environment if a relatively large area is available downstream of the pond.
- ⇒ Storm water hot spots are areas where land use or activities generate highly contaminated runoff, with concentrations of pollutants in excess of those typically found in storm water. Dry extended detention ponds can accept runoff from storm water hot spots, but they need significant separation from ground water if they will be used for this purpose.
- ⇒ A storm water retrofit is a storm water management practice (usually structural) put into place after development has occurred to improve water quality, protect downstream channels, reduce flooding, or meet other specific objectives. Dry extended detention ponds are very useful storm water retrofits, and they have two primary applications as a retrofit design. In many communities, detention basins have been designed for flood control. It is possible to modify these facilities to incorporate features that encourage water quality control and/or channel protection. It is also possible to construct new dry ponds in open areas of a watershed to capture existing drainage.

Overall, dry extended detention ponds increased temperature by about 5°F. In cold water streams, dry ponds should be designed to detain storm water for a relatively short time (i.e., less than 12 hours) to minimize the amount of warming that occurs in the practice.

Design Criteria:

The design features can be divided into five basic categories: pretreatment, treatment, conveyance, maintenance reduction, and landscaping.

- ⇒ Pretreatment settles out coarse sediment particles from runoff before they reach the large permanent pool. In ponds, pretreatment is achieved with a sediment forebay, which is a small pool (typically about 10 percent of the volume of water to be treated for pollutant removal).
- ⇒ Treatment design features help enhance the ability of a storm water management practice to remove pollutants by designing dry ponds with a high length-to-width ratio (i.e., at least 1.5:1) and incorporating other design features to maximize the flow path to effectively increase the detention time in the system by eliminating the potential of flow to short-circuit the pond. Designing ponds with relatively

Dry Extended Detention Pond (continued)

flat side slopes can also help to lengthen the effective flow path. Finally, the pond should be sized to detain the volume of runoff to be treated between 12 and 48 hours.

- ⇒ Storm water should be conveyed to and from storm water management practices safely in a manner that minimizes erosion potential. The outfall of pond systems should always be stabilized to prevent scour. To convey low flows through the system, designers should provide a pilot channel. A pilot channel is a surface channel that should be used to convey low flows through the pond. In addition, an emergency spillway should be provided to safely convey large flood events. To help mitigate warming at the outlet channel, designers should provide shade around the channel at the pond outlet.
- ⇒ To ease the maintenance burden of each practice, a "micropool" at the outlet can prevent resuspension of sediment and outlet clogging. A good design includes maintenance access to the forebay and micropool. Another design feature that can reduce maintenance needs is a non-clogging outlet. Typical examples include a reverse-slope pipe or a weir outlet with a trash rack. A reverse slope pipe draws from below the permanent pool extending in a reverse angle up to the riser and determines the water elevation of the micropool. Because these outlets draw water from below the level of the permanent pool, they are less likely to be clogged by floating debris.
- ⇒ Designers should maintain a vegetated buffer around the pond and should select plants within the extended detention zone (i.e., the portion of the pond up to the elevation where storm water is detained) that can withstand both wet and dry periods. The side slopes of dry ponds should be relatively flat to increase safety.

There are also several variations in design for detention ponds.

- ⇒ Dry detention ponds are similar in design to extended detention ponds. However, they do not incorporate features to improve water quality. In particular, these practices do not detain storm water from small flow events.
- ⇒ Another variation of the dry detention pond design is the use of tank storage. In this design, storm water runoff is conveyed to large storage tanks or vaults underground. This practice is most often used in the ultra-urban environment, on small sites where no other opportunity is available to provide flood control. Tank storage is provided on small areas because providing underground storage for a large drainage area would generally be cost-prohibitive. Because the drainage area contributing to tank storage is typically small, the outlet diameter needed to reduce the flow from very small storms would be very small. A very small outlet diameter, along with the underground location of the tanks, creates the potential for debris to be caught in the outlet and could result in maintenance problems. Since it is necessary to control small runoff events (such as the runoff from a 1-inch storm) to improve water quality, it is generally unfeasible to use tank stor-

age for water quality and generally impractical to use it to protect stream channels.

- ⇒ In arid and semi-arid regions, some modifications might be needed to conserve scarce water resources. Any landscaping plans should prescribe drought-tolerant vegetation wherever possible. In addition, the wet forebay can be replaced with an alternative dry pretreatment, such as a detention cell. One opportunity in regions with a distinct wet and dry season, as in many arid regions, is the use of regional extended detention ponds as a recreation area, such as a ball field during the dry season.

Maintenance:

- ⇒ Semi-annually note erosion of pond banks or bottom.
- ⇒ Annually inspect for damage to the embankment.
- ⇒ Annually monitor for sediment accumulation in the facility and forebay. Examine to ensure that inlet and outlet devices are free of debris and are operational.
- ⇒ Repair undercut or eroded areas, mow side slopes, manage pesticide and nutrients, and remove litter and debris as standard maintenance.
- ⇒ Annually seed or sod to restore dead or damaged ground cover.
- ⇒ Remove sediment from the forebay every 5 to 7 years.
- ⇒ Monitor sediment accumulations and remove sediment when the pond volume has been reduced by 25 percent (every 25 to 50 years).



Urban Forestry



Description:

Urban forestry is the practice of establishing and maintaining trees and forests in and around towns and cities. Since trees absorb water, patches of forest and the trees that line streets can help provide some of the storm water management required in an urban setting. Urban forests also help break up a landscape of impervious cover, provide small but essential green spaces, and link walkways and trails.

Successful urban forestry requires a conservation plan for individual trees as well as forest areas larger than 0.25 acres. A local forest or tree ordinance is one technique for achieving conservation, and when specific measures to protect and manage these areas are included, urban forests and trees can also help reduce storm water management needs in urban areas.

Advantages:

- ⇒ Trees absorb carbon dioxide, reduce temperature, and provide habitat for urban wildlife.
- ⇒ Urban forests can act as natural storm water management areas by filtering particulate matter (pollutants, nutrients, and sediment) and by absorbing water.
- ⇒ Reduction of noise levels and increased recreation benefits and property values.

Disadvantages:

- ⇒ Development pressure often conflicts with urban forestry measures.
- ⇒ The size of the land may limit the ability to protect individual trees.
- ⇒ Forests may harbor undesirable wildlife elements, including insects and other pests. If forests border houses, this may be a concern for residents.

Applications:

- ⇒ From a stream preservation perspective, it is ideal to retain as much contiguous forest as possible. At the same time, this may not be an option in many urban areas. If forested areas are fragmented, it is ideal to retain the closest fragments together.
- ⇒ In rapidly urbanizing areas, where clearing and grading are important, tree preservation areas should be clearly marked. Delineating lines along a CRZ rather than a straight line is essential to preserving trees and can help reduce homeowner complaints about tree root interference into sewer or septic lines.

Implementation:

The concept of the Critical Root Zone (CRZ) is essential to a proper management plan. The CRZ is the area required around a tree for the tree's survival. Determined by the tree size and species, as well as soil conditions for isolated specimen trees, the CRZ can be estimated as 1 1/2 feet of radial distance for every inch of tree diameter. In larger areas of trees, the CRZ of forests can be estimated at 1 foot of radial distance for every inch of tree diameter, or a minimum of 8 feet. An urban forestry plan should include measures to establish, conserve, and/or reestablish preservation areas. A forest preservation ordinance is one way to set design standards outlining how a forest should be preserved and managed. The ordinance should outline some basic management techniques and should contain some essential elements. The following is a list of some typical elements of a forest conservation plan:

- A map and narrative description of the forest and the surrounding area that includes topography, soils, streams, current forested and unforested areas, tree lines, critical habitats, and 100-year flood plain.
- An assessment that establishes preservation, reforestation, and afforestation areas.
- A forest conservation map that outlines forest retention areas, reforestation, afforestation, protective devices, limits of disturbance, and stockpile areas.
- A schedule of any additional construction in and around the forest area.
- A specific management plan, including tree and forest protection measures.
- A reforestation and afforestation plan.

Maintenance:

- ⇒ May require fringe landscaping and trash pick-up. By using native vegetation and keeping the area as natural as possible, maintenance can be minimized.

Source: EPA website. Office of Water. National Menu of Best Management Practices for Storm Water Phase II. July 1, 2002. <http://www.epa.gov/npdes/menuofbmps/menu.htm>

BMP Inspection and Maintenance



Description:

To maintain the effectiveness of postconstruction storm water control best management practices (BMPs), regular inspection of control measures is essential. Generally, inspection and maintenance of BMPs can be categorized into two groups—expected routine maintenance and nonroutine (repair) maintenance. Routine maintenance refers to checks performed on a regular basis to keep the BMP in good working order and aesthetically pleasing. In addition to maintaining the effectiveness of storm water BMPs and reducing the incidence of pests, proper inspection and maintenance is essential to avoid the health and safety threats inherent in BMP neglect. The failure of structural storm water BMPs can lead to downstream flooding, causing property damage, injury, and even death.

Advantages:

- ⇒ Efficient way to prevent nuisance situations (odors, mosquitoes, weeds, etc.), reduce the need for repair maintenance, and reduce the chance of polluting storm water runoff by finding and correcting problems before the next rain.
- ⇒ Because maintenance work for storm water BMPs is usually not technically complicated (mowing, removal of sediment, etc.), workers can be drawn from a large labor pool.

Disadvantages:

- ⇒ As structural BMPs increase in their sophistication, more specialized (more costly) maintenance training might be needed to sustain BMP effectiveness.
- ⇒ Not all materials that may be needed for emergency structural repairs are immediately available.

Applicability:

Under the proposed Storm Water Phase II rule, owners and operators of small municipal separate storm sewer system (MS4) facilities would be responsible for implementing BMP inspection and maintenance programs and having penalties in place to deter infractions.

- ⇒ All storm water BMPs should be inspected for continued effectiveness and structural integrity on a regular basis. Generally, all BMPs should be checked after each storm event in addition to these regularly scheduled inspections.
- ⇒ Scheduled inspections will vary among BMPs. Structural BMPs such as storm drain drop inlet protection may require more frequent inspection to ensure proper operation.
- ⇒ During each inspection, the inspector should document whether the BMP is performing correctly, if there has been any damage to the BMP since the last inspection, and what should be done to repair the BMP if damage has occurred.

Siting and Design Considerations:

- ⇒ In the case of vegetative or other infiltration BMPs, inspection of storm water management practices following a storm event should occur after the expected drawdown period for a given BMP. This allows the inspector to see whether detention and infiltration devices are draining correctly.
- ⇒ Inspection checklists should be developed for use by BMP inspectors. Checklists might include each BMP's minimum performance expectations, design criteria, structural specifications, date of implementation, and expected life span. In addition, the maintenance requirements for each BMP should be listed on the inspection checklist. This will aid the inspector in determining whether a BMP's maintenance schedule is adequate or needs revision. Also, a checklist will help the inspector determine renovation or repair needs.

Maintenance:

It is important that routine maintenance and nonroutine repair of storm water BMPs be done according to schedule or as soon as a problem is discovered. Because many BMPs are rendered ineffective for runoff control if not installed and maintained properly, it is essential that maintenance schedules are maintained and repairs are made promptly. In fact, some cases of BMP neglect can have detrimental effects on the landscape and increase the potential for erosion. However, "routine" maintenance, such as mowing grasses, should be flexible enough to accommodate the fluctuations in need based on relative weather conditions. For example, more harm may be caused by mowing during an extremely dry period or immediately following a storm event.

Source: EPA website. Office of Water. National Menu of Best Management Practices for Storm Water Phase II. July 1, 2002. <http://www.epa.gov/npdes/menuofbmps/menu.htm>

Contractor/Inspector Training



Description:

In many municipalities, erosion and sediment control (ESC) plans are required under ordinances enacted to protect water resources. These plans describe how a contractor or developer will reduce soil erosion and contain and treat runoff that is carrying eroded sediments. Plans typically include descriptions and locations of soil stabilization practices, perimeter controls, and runoff treatment facilities that will be installed and maintained before and during construction activities. In addition to special area considerations, the full ESC plan review inventory should include:

- Topographic and vicinity maps
- Site development plan
- Construction schedule
- ESC plan drawings
- Detailed drawings and specifications for practices
- Design calculations
- Vegetation plan.

Municipalities often do not have the funding and staffing resources to support a construction site inspection program. Municipalities can implement a private inspector program in which individuals can receive stormwater management and ESC training to become certified inspectors to reduce the burden on the governing agency. These private inspectors can be hired directly by the contractor when the governing agency anticipates that a larger, more complicated site will require substantial agency resources. Contractor certification programs are supplements to a municipal inspection and enforcement program.

Applications:

- ⇒ Contractor certification programs for municipalities that require erosion and sediment control plans for construction sites. Training and certification will help to ensure that the plans are properly implemented and that best management practices are properly installed and maintained.
- ⇒ Inspector training programs for municipalities with limited funding and resources for ESC program implementation. The inspectors will lighten the financial and staffing burden of governing agencies to ensure compliance on construction sites.

Benefits:

Contractors are the individuals ultimately responsible for the proper installation and maintenance of ESC practices on construction sites. A contractor certification program will help to improve compliance with ESC programs and foster better relationships between contractors and regulators. Inspector training programs can help to enforce compliance by limiting the burden of inspection for local regulatory agencies. By freeing up staff and other resources, more frequent and thorough inspections can be made.

Limitations:

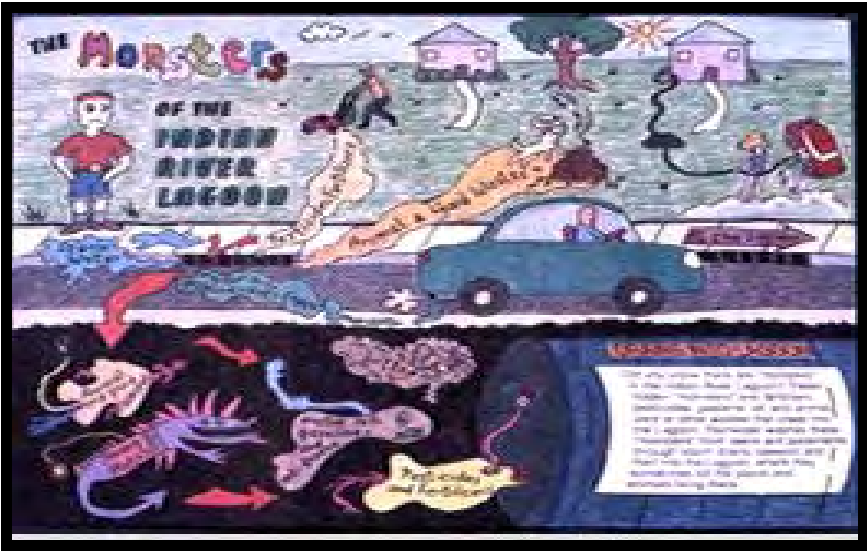
Contractor certification and inspector training programs require a substantial amount of effort on the part of the municipality or regulatory agency. They need to develop curricula for training courses, dedicate staff to teach courses, and maintain a report review and site inspection staff to ensure that both contractors and inspectors are fulfilling their obligations and complying with the ESC program.

Implementation:

Contractor certification can be accomplished through municipally sponsored training courses, or more informally, municipalities can hold mandatory pre-construction or pre-wintering meetings and conduct regular and final inspection visits to transfer information to contractors. Information that should be covered in training courses and meetings includes the importance of ESC for water quality protection, developing and implementing ESC plans, the importance of proper installation, regular inspection, and diligent maintenance of ESC practices, and record-keeping for inspections and maintenance activities. To implement an inspector training program, the governing agency would need to establish a certification course with periodic recertification, review reports submitted by private inspectors, conduct spot checks for accuracy, and institute fines or other penalties for noncompliance.

Source: EPA website. Office of Water. National Menu of Best Management Practices for Storm Water Phase II. July 1, 2002. <http://www.epa.gov/npdes/menuofbmps/menu.htm>

Educational Pamphlets



Description:

Printed materials are a common way to inform the public about storm water pollution. Some municipalities have a public relations department or a staff member that handles these outreach materials, whereas others contract with public relations firms and graphic designers to develop materials. Regardless of who actually produces the materials, municipalities should be creative when deciding which media to use and what types of messages are appropriate for those media. Some common printed materials include educational displays, pamphlets, booklets, and utility stuffers.

Advantages:

- ⇒ Can be tailored to many different types of audiences.
- ⇒ A brochure can be written for the general public and later edited so that it reaches individuals within the storm water industry.
- ⇒ Relatively inexpensive and can reach large groups of people, especially when displayed in public places (e.g., public libraries).

Disadvantages:

- ⇒ Care must be taken to ensure that the message is easily understood by the targeted audience.

Applications:

Educational displays, pamphlets, booklets, and stuffers can be easily exhibited and distributed to a large population. They can be made using simple materials and graphics, or they can be made more elaborate. Furthermore, these displays can be made for any and all age levels, in any language, or for specific audiences.

Implementation:

- ⇒ Pamphlets, booklets, and brochures are an effective way to present and explain a storm water message. Unlike many other communication vehicles, pamphlets and booklets can be distributed in many places without requiring someone to staff them. Racks of pamphlets can be set up at libraries, schools, offices, and fairs. They can be passed out at meetings and used in a direct mail campaign. Before creating a pamphlet or booklet, it is important to think through the purpose of the piece and its intended audience. It might be intended to solicit interest in a specific storm water event or activity, or to promote storm water education and positive behaviors. The purpose will significantly define the appearance and content.
- ⇒ In addition to a booklet or pamphlet, a one-page flyer can be produced to carry the basic message. A short, to-the-point flyer is essential as the primary education tool for programs with a small budget. Commonly, flyers list the basic do's and don'ts of water pollution and list the top 10 actions the public should take against storm water pollution. The flyer should contain the basic list of information the public needs to know. The flyer should be designed to be easily reproduced for newspapers and newsletters (black-and-white and reproducible by copy machine), a major venue for communicating with the public. The flyer can be designed as a self-mailer and as funds become available, it can be expanded into a poster, calendar, or booklet.
- ⇒ As with pamphlets, booklets, flyers, and utility stuffers offer an inexpensive, convenient way to convey the message to a large audience. However, instead of being targeted at a specific audience, utility stuffers must be appropriate for the public. These inserts can be extremely effective if they are engaging, concise, and memorable. They are often used to impart brief, important messages, provide overviews of the problems and solutions, or implore simple actions. When designing the insert, explore options regarding paper and ink colors, type faces, and type sizes; the text should be kept brief, the letters fairly large, and the design attractive. Special care should be taken to ensure that the message is simple, concisely written, and tells the reader why this issue is important to them.

Classroom Education



Description:

Classroom education is an integral part of any storm water pollution outreach program. Providing storm water education through schools exposes the message not only to students but to their parents as well. Many municipal storm water programs have partnered with educators and experts to develop storm water-related curricula for the classroom. In addition to formal lessons, activities such as poster contests can be initiated in the classrooms.

Advantages:

- ⇒ Children will learn about environmental issues early and will therefore become interested and perhaps involved at earlier ages.
- ⇒ Schoolchildren often tell their parents what they learn in school. Therefore, teaching children about storm water is an effective way to pass environmental awareness to their parents and throughout the entire community.
- ⇒ Activities like poster contests can simultaneously educate and inspire creativity.
- ⇒ Poster contest results can be posted in the community to educate adults as well as children.
- ⇒ Lessons need not be elaborate or expensive to be effective.

Disadvantages:

- ⇒ Incorporate storm water issues into the school curricula with so many subjects to teach is difficult as environmental issues might be viewed as less important.
- ⇒ Cost of new materials.
- ⇒ Effective activities must target the correct age group(s).

Applications:

Any school that wants to educate students about storm water.

Implementation:

- ⇒ Building a strong relationship with the school district is the most important step in getting storm water education into the schools. One of the first questions to ask is what storm water education program, if any, do the schools already implement, or want to see in their schools but lack the resources to do so. When developing an outreach message for children, choose the age ranges to target. Will the focus be on students in preschool, grammar school, middle school, and/or high school? Should the curricula be grade-level specific? Will the program involve a year-long study, a semester, a special topic or event, an art or writing contest, or a single presentation by an organization? What special equipment might be needed? For example, the municipality might purchase a small-scale watershed model that can be loaned to schools for demonstrations as part of a watershed education program. The answers to these questions and others will be determined by both the school district's needs and the municipal resources available.
- ⇒ Many national and regional organizations can provide assistance and materials for storm water education. The national Center for Environmental Education (CEE) was established in 1990 to provide teachers with a single clearinghouse for K–12 environmental education materials. CEE has written a guidebook titled *Blueprint for a Green School* to tackle the environmental challenges found inside schools and on school playgrounds. CEE's outreach department works with schools nationwide. One of the most popular programs, *Green School's Peer Partners in Environmental Education*, organizes high school students to adopt an elementary school or class. A free copy of the on-line program is available through Earth Spirit at 310-582-8228. CEE's Internet page at www.cee-ane.org is another good source of information.
- ⇒ If a school requests storm water outreach materials, municipalities can provide educational aids that range from simple photocopied handouts, overheads, posters, and slide shows, to more costly and elaborate endeavors such as working models and displays.

Recommendation:

Implementing a writing or art contest may be an effective way to educate a large number of adults and children. A contest could be initiated with an introductory lesson on storm water programs. Then if students are interested, they could enter the contest. A contest would inspire creativity, rewarding, educating, and fun. Furthermore, post-contest results could be displayed in the local newspaper or libraries, for example, and therefore educate many others. This type of education has the potential to reach all levels in the community through a single effort.

Catch Basin Marking

Applications:

Entire community, especially in areas with sensitive waters or where trash, nutrients, or biological oxygen demand have been identified as high priority pollutants. Areas where littering, nutrient overenrichment, and other practices that contribute to non-point source pollution is a problem.

Implementation:

Municipalities can implement storm drain stenciling programs in two ways. In some cases, cities and towns use their own public works staff to do the labeling. Some municipalities feel that having their own crews do the work produces better results and eliminates liability and safety concerns. More commonly, stenciling projects are conducted by volunteer groups in cooperation with a municipality. In such an arrangement, volunteer groups provide the labor and the municipality provides supplies, safety equipment, and a map and/or directions to the drains to be stenciled. The benefits of using volunteers are lower cost and increased public awareness of storm water pollutants and their path to waterbodies. A municipality can establish a program to comprehensively address storm drain stenciling and actively recruit volunteer groups to help, or the municipality can facilitate volunteer groups that take the initiative to undertake a stenciling project.

Description:

Storm drain labeling involves labeling storm drain inlets with painted messages warning citizens not to dump pollutants into the drains. The messages are generally a simple phrase to remind a passerby that the storm drains connect to local waterbodies and that dumping pollutes those waters. Some specify which waterbody the inlet drains into or names the particular river, lake, or bay. Common messages include: "No Dumping. Drains to Water Source," "Drains to River," and "You Dump it, You Drink it. No Waste Here." Pictures can also be used to convey the message, including a shrimp, common game fish, or a graphic depiction of the path from drain to waterbody.

Advantages:

- ⇒ Excellent opportunity to educate the public about the link between the storm drain system and drinking water quality.
- ⇒ Generally effective, inexpensive, and easy to implement.

Disadvantages:

- ⇒ Larger communities have many storm drain inlets, so volunteer coordinators need to be skilled at organizing to provide adequate coverage in large areas.
- ⇒ Safety considerations in areas where traffic congestion is high.
- ⇒ Environmental considerations from the use of propellants in spray paint.
- ⇒ Difficult to precisely measure the effect that storm drain stenciling programs have on human behavior.

City of Lodi Implementation:

As an Eagle Scout project, about 60% of the existing storm drain catch basins have been labeled with placards indicating water is discharged to the river and that no dumping is allowed. Placards are shown at the upper left of this page. Newly installed catch basins include placards.



Community Hotline



Description:

Because regulators and authorities cannot monitor all waterbodies at once, they sometimes rely on the public to keep them informed of water polluters. Community hotlines provide a means for concerned citizens and agencies to contact the appropriate authority when they see water quality problems. A hotline can be a toll-free telephone number or an electronic form linked directly to a utility or government agency, such as the water quality control board. A typical call might report a leaking automobile, concrete wash-out dumped on the street, paint in a creek, or organic debris (including pet waste) in a drainage system or waterway.

Advantages:

- ⇒ Link between the citizens and the municipality's government. It can be an avenue for citizens to feel more involved in their community.
- ⇒ Can catch illegal polluters or stop spills that might otherwise go unnoticed.

Disadvantages:

- ⇒ Community must be able to pay for hotline and keep the hotline staffed.
- ⇒ Hotline must be advertised in order for the effort to be successful.

Effectiveness:

A storm water hotline is effective when its number is easily remembered (i.e., has a catchy name) or is easily accessible. Most important, however, is the responsiveness of the hotline. If a citizen reports an illegal dumping but no action is taken by the appropriate authority, that citizen could lose faith in the hotline and might not call back with future information.

Applicability:

Generally, an investigation team promptly responds to a hotline call and, in most cases, visits the problem site. If a responsible party can be identified, the team informs the party of the problem, offers alternatives for future disposal, and instructs the party to resolve the problem. If the issue is not resolved by the responsible party (or the party cannot be identified), the proper authority takes action to remediate the situation and prevent future violations.

Implementation:

A municipality must first determine whether they need a hotline and, if so, whether the hotline is needed immediately or in the near future. A city can identify their need for a hotline by addressing the following questions:

- Does the city receive frequent phone calls for information about water bodies and stream pollution?
- Are there frequent complaints?
- Are there any anticipated construction or other projects in the city?
- Are there any new ordinances or regulations?
- Does the city currently use a "hit or miss approach," in which whoever picks up the phone deals with the situation?

Once a city has determined that they need a hotline, they should choose between a telephone or an e-mail hotline.

- ⇒ To establish a storm water pollution hotline, a party or agency responsible for maintaining the hotline and responding to incoming complaints must first be identified. The responsible party could be a division of local government, a water quality board, a public utility, or an environmental agency. If the city chooses to use its own staff, it should keep in mind that the staff will require training. The city could also contract with a professional hotline provider. Once the party has agreed to maintain the hotline, it will need to establish a telephone number (preferably toll-free and to be used solely to report pollution complaints) and/or Internet site to receive notification.
- ⇒ All distributed materials should include pollution hotline numbers and information. Typically, hotlines are advertised on public education materials concerned with water quality, such as flyers, door hangers, and brochures. The hotline could also be publicized on "permanent" materials such as bumper stickers and refrigerator magnets, where the number can be retained and easily located.
- ⇒ Hotline costs can be minimized by staying a step ahead of questions and by developing close liaison with city staff to anticipate information needs. Cost estimates can be obtained by comparing the costs of training city staff and using a professional hotline service.

Source: EPA website. Office of Water. National Menu of Best Management Practices for Storm Water Phase II. July 1, 2002. <http://www.epa.gov/npdes/menuofbmeps/menu.htm>

Vehicle Washing



Description:

This management practice involves educating the general public, businesses, and municipal fleets (public works, school buses, fire, police, and parks) on the water quality impacts of the outdoor washing of automobiles and how to avoid allowing polluted runoff to enter the storm drain system. Outdoor car washing has the potential to input high loads of nutrients, metals, and hydrocarbons to watersheds during dry weather conditions, as the detergent-rich water used to wash the cars flows into the storm drain. Commercial car wash facilities often recycle their water or are required to treat their wash water discharge prior to release to the sanitary sewer system. Most storm water impacts from car washing are caused by residents, businesses, and charity car wash fundraisers that discharge polluted wash water to the storm drain system. According to the surveys, 55 to 70 percent of households wash their own cars, with the remainder going to a commercial car wash.

Limitations:

- ⇒ Lack of knowledge regarding the impacts of polluted runoff. Many people do not associate the effects of their vehicle washing activities with local water quality and may be unaware that the discharges that enter storm drains are not treated at plants before being discharged into local waters.
- ⇒ Construction of a specialized area for vehicle washing can be expensive. Also, for facilities that cannot recycle their wash water, pretreating wash water, through either structural practices or planning for collection and hauling of contaminated water to sewage treatment plants, can represent a cost limitation.

Applicability:

Car washing is a common routine for residents and a popular way for organizations such as scout troops, schools, and sports teams to raise funds. This activity's impact on water quality is greatest in more urbanized areas with higher concentrations of automobiles. Carwash fundraisers are popular in Lodi and are of particular concern for the City.

Implementation:

The development of a prevention program to reduce the impact of car wash runoff includes outreach on management practices to reduce discharges to storm drains. Some of these management practices include the following:

- Using a commercial car wash.
 - Washing cars on gravel, grass, or other permeable surfaces.
 - Blocking off the storm drain during charity carwash events or using an insert to catch wash water.
 - Directing soapy water from car washes to sanitary sewer drains.
 - If pumping into a drain is not feasible, pumping car wash water onto grass or landscaping to provide filtration.
 - Using hoses with nozzles that automatically turn off when left unattended.
 - Using only biodegradable soaps.
- ⇒ Storm drain stenciling programs emphasizing the connection between the storm drain system and runoff can also help reinforce the idea that car washing activities can affect local water quality.
- ⇒ In the Pacific Northwest, outreach programs provide materials to charity carwash organizers to prevent car wash water from entering storm drains. These "water friendly" carwash kits are provided free of charge to charity organizers, along with training and educational videos on planning an environmentally friendly carwash. Two types of equipment are available for charity organizations to borrow: a catch-basin insert with a sump pump, or a vacuum/boom device known as a Bubble Buster. Both devices capture wash water runoff, allowing it to be pumped to either a sanitary sewer or a vegetated area for treatment.

Effectiveness:

The effectiveness of car washing management practices at reducing nonpoint source pollutant loads has yet to be measured accurately. Due to the diffuse nature of nonpoint source pollution, it is often difficult to determine the exact impact of a particular pollution prevention measure at reducing pollutant loading

Source: EPA website. Office of Water. National Menu of Best Management Practices for Storm Water Phase II. July 1, 2002. <http://www.epa.gov/npdes/menuofbmps/menu.htm>

Street Cleaning



Description:

This management practice involves employing pavement cleaning such as street sweeping on a regular basis to minimize pollutant export to receiving waters. These cleaning practices are designed to remove sediment debris and other pollutants that are a potential source of pollution impacting urban waterways. Although performance monitoring for the Nationwide Urban Runoff Program (NURP) indicated that street sweeping was not very effective in reducing pollutant loads, recent improvements in street sweeper technology have enhanced the ability of present day machines to pick up the fine grained sediment particles that carry a substantial portion of the storm water pollutant load. Many of today's sweepers can now significantly reduce the amount of street dirt entering streams and rivers, some by significant amounts. A debate as to whether this ability to pick up finer particles will improve the overall pollutant removal effectiveness of street sweepers is ongoing, and further research is required to establish the optimal sweeping frequency for pollutant removal.

Disadvantages:

- ⇒ The high cost of some of the newer sweeper technologies is approaching \$200,000.
- ⇒ The potential inability to restrict parking in urban areas.
- ⇒ The need for sweeper operator training, the inability of current sweeper technology to remove oil and grease, and the lack of solid evidence regarding the level of pollutant removal.

Applicability:

Most urban areas. The frequency and intensity of rainfall for a region is a key variable in determining how streets need to be swept to obtain a desired removal efficiency. Other factors that affect a street sweeper's ability to reduce nonpoint pollution include the condition of the street, its geographical location, the operator's skill, the presence of parked cars, and the amount of impervious area devoted to rooftops.

Design Considerations:

- ⇒ One factor considered most essential to the success of street sweeping as a pollutant removal practice is the use of the most sophisticated sweepers available. Innovations in sweeper technology have improved the performance of these machines at removing finer sediment particles, especially for machines that use vacuum-assisted dry sweeping to remove particulate matter. By using the most sophisticated sweepers in areas with the highest pollutant loads, greater reductions in sediment and accompanied pollutants can be realized.
- ⇒ Another important aspect of street sweeping programs is the ability to regulate parking. The ability to impose parking regulations in densely populated areas and on heavily traveled roads is essential.
- ⇒ The frequency and location of street sweeping is another consideration for any program. How often and what roads to sweep are determined by the program budget and the level of pollutant removal the program wishes to achieve. Computer modeling of pollutant removal in the Pacific Northwest suggests that the optimum sweeping frequency appears to be once every week or two. More frequent sweeping operations yielded only a small increment in additional removal. The model also suggests that a somewhat higher removal rate could be obtained on residential streets as opposed to more heavily traveled arterial roads.
- ⇒ Parking lot sweeping is also employed as a nonstructural management practice for industrial sites. This involves using brooms to remove small quantities of dry chemicals and solids from areas that are exposed to rainfall or storm water runoff. While the effectiveness of this pollutant removal is unknown, the sweeping and proper disposal of materials is a reasonably inexpensive method that requires no special training or equipment.

Maintenance:

Street cleaning programs require a significant investment of capital and a yearly operation and maintenance budget. Sweepers have a useful life of about four years, and proper maintenance can greatly improve sweeping efficiency. Arrangements for disposal of the swept material collected must also be made, as well as accurate tracking of the streets swept and the frequency of sweeping.

Source: EPA website. Office of Water. National Menu of Best Management Practices for Storm Water Phase II. July 1, 2002. <http://www.epa.gov/npdes/menuofbmps/menu.htm>

Storm Drain Cleaning



Description:

Storm drain systems need to be cleaned regularly to maintain their ability to trap sediment, and consequently their ability to prevent flooding. Most drains have catch basins built at the curb line which allow surface water runoff to enter the storm water conveyance system. Many catch basins have a low area below the invert of the outlet pipe intended to catch coarse sediment. By trapping sediment, the catch basin prevents solids from clogging the storm sewer and being washed into receiving waters. Routine cleaning reduces the amount of pollutants, trash, and debris both in the storm drain system and in receiving waters. Clogged drains and storm drain inlets can cause the drains to overflow, leading to increased erosion.

Advantages:

- ⇒ Better drainage will reduce large-scale maintenance and repairs.
- ⇒ Improvement of aesthetics and water quality. Increase of dissolved oxygen, reduction of bacteria levels, reduction of odor, and support of instream habitat.
- ⇒ Efficient and cost-effective method for preventing the transport of sediment and pollutants to receiving water bodies.

Disadvantages:

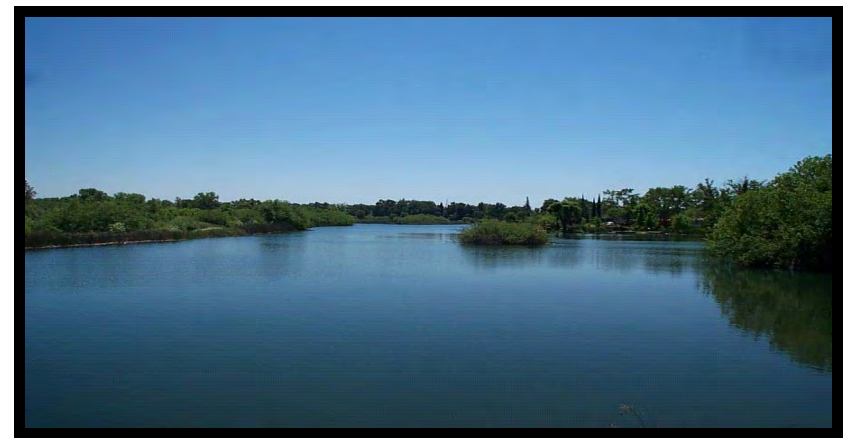
- ⇒ Removed debris usually contains appreciable amounts of water and offensive organic material which must be properly disposed.
- ⇒ Difficult to clean in areas with poor accessibility or traffic congestion.
- ⇒ The efficiency of storm system flushing decreases when the length of sewer line being cleaned exceeds 700 feet.
- ⇒ A water source is necessary for cleaning.

Applicability:

This measure is applicable to all storm drain systems. The same principles can be applied to material and waste handling areas, paved and vegetated areas, waterways, and new development projects. Areas with relatively flat grades or low flows should be given special attention because they rarely achieve high enough flows to flush themselves. Many programs tend to focus only on removal of debris from grate openings, but a full implementation of this BMP should also include removal of debris from the catch basin itself.

Maintenance:

- ⇒ Must remove 55 to 65 percent of inorganic materials and grits and 65 to 75 percent of organics.
- ⇒ Catch basins should be inspected at least annually to determine if they need to be cleaned. Typically, a catch basin should be cleaned if the depth of deposits is greater than or equal to one-third the depth from the basin to invert of the lowest pipe or opening into or out of the basin. If a catch basin significantly exceeds the one-third depth standard during the annual inspection, then it should be cleaned more frequently. If woody debris or trash accumulates in the basin, then cleaning should be weekly.
- ⇒ Catch basins can be cleaned manually or with specially designed equipment like bucket loaders and vacuum pumps. Removed material can usually be disposed in conventional landfills. However, before any materials can be disposed, it may necessary to perform a detailed chemical analysis to determine if the materials meet the EPA criteria for hazardous waste.



Source: EPA website. Office of Water. National Menu of Best Management Practices for Storm Water Phase II. July 1, 2002. <http://www.epa.gov/npdes/menuofbmps/menu.htm>

Disposal of Chlorinated Water



Description:

Chlorinated water discharged to surface waters has an adverse impact on local water quality. Swimming pools are a major source of chlorinated water discharged into sanitary and storm sewer systems. An average swimming pool holds 19,000 gallons of chlorinated water. Pools have high concentrations of chlorine, which is toxic to wildlife and fish. Proper disposal of chlorinated water can include dechlorination before discharge and/or discharge to the sanitary sewer system or land.

Advantages:

- ⇒ A safe discharge of chlorinated water will improve water quality for fish and wildlife.

Limitations:

- ⇒ Enforcement of safe discharge of chlorinated water may be difficult to achieve.

Applicability:

- ⇒ Any chlorinated pool owner should investigate these alternative discharge options.
- ⇒ Many pool owners who live in cooler climates drain their swimming pools to reduce maintenance and potential damage from freezing during harsh winters. These individuals should not discharge pool water to the storm sewer system or directly into a water body and should investigate alternative discharge options.

Implementation:

- ⇒ Requires pool owners to obtain permission from local sanitary sewer operators or municipal treatment plant operators to discharge to the sanitary sewer system using a surge tank.
- ⇒ Discharge the chlorinated water to land where it will not drain to local surface waters.
- ⇒ Dechlorinate the water before draining the pool.
- ⇒ If the only option for draining pool water is to discharge directly into the environment, water quality must comply with the applicable water quality criteria.
- ⇒ Pool water must sit for at least 2 days after the addition of chlorine or bromine or until chlorine or bromine levels are below 0.1 mg/l.
- ⇒ The pH of discharged water must be between 6.5 and 8.5 before it is discharged.
- ⇒ Algicides such as copper or silver can interrupt normal algal and plant growth and should not be used.
- ⇒ Total suspended solids must be below 60 mg/l—suspended particles should be allowed to settle out and the water should not appear murky. Settled material should not be discharged with pool water.
- ⇒ Discharges to the environment should be directed over a land surface so that some level of filtration by soil particles can occur. The above water quality requirements also apply to land-applied water.

Source: EPA website. Office of Water. National Menu of Best Management Practices for Storm Water Phase II. July 1, 2002. <http://www.epa.gov/npdes/menuofbmps/menu.htm>

Illicit Discharge

Procedures for Removing the Source of an Illicit Discharge

- ⇒ Issue hefty fines as a penalty to illicit dischargers (if they are identifiable.)
- ⇒ Continue to educate public, local businesses, in addition to identified illicit dischargers about the storm water drainage system. Inform them of the hazards associated with illegal discharges and improper disposal of waste. Provide ways for them to prevent illicit discharges.
- ⇒ Clean up floatable debris using methods found on BMP entitled: “Methods for Floatable Debris Control.”

Procedures for Program Evaluation and Assessment

- ⇒ Conduct follow-up field tests periodically to monitor amount of illicit discharge. These tests will reveal whether or not the program has helped improve the storm drain water quality.

The objective of an illicit discharge investigation program is to identify and eliminate the discharge of pollutants to the storm water drainage system. Identifying illicit connections and major sources of floatable debris are key to reducing illicit discharge. Controlling illicit discharge provides important public health benefits as well as lotic ecosystem protection. However, regulating practices like illegal dumping is difficult because of its covert nature.

Procedures for Locating Priority Areas Likely to Have Illicit Discharges

- ⇒ Visually screen outfalls during dry weather.
- ⇒ Conduct field tests of selected pollutants as part of locating priority areas.
- ⇒ Generate a storm sewer system map, showing the location of all outfalls and the names and location of all waters that receive discharges from those outfalls.

Procedures for Tracing the Source of an Illicit Discharge

- ⇒ Again, use the map to locate outfalls where the majority of illicit discharge is found.
- ⇒ Identify illicit connections to the storm drain system. (See BMP entitled “Illicit Connections”).
- ⇒ Conduct field tests to evaluate the type of illicit discharge and attempt to link to source. For example, if a great deal of floatable debris displays the same company name, then investigate that company as a potential illicit discharge source. (See BMP entitled “Floatable Debris”).



Location of Illicit Discharges: Illicit Connections



Description:

Illicit connections are defined as illegal connections to storm drainage systems. A discharge of industrial wastewater to a storm sewer is "illicit" because it would ordinarily require a permit under the Clean Water Act. Many building owners or operators are not aware that improper connections exist in their facilities. Identifying and removing illicit connections is a measure for reducing storm water pollution. In extreme cases of illicit dumping, legal action is necessary.

Advantages:

- ⇒ Effect method to reduce the quantity of industrial or commercial pollutants that enter the storm drain system.

Disadvantages:

- ⇒ The cost of smoke testing, dye testing, visual inspection, and flow monitoring can be significant and time-consuming.
- ⇒ A local ordinance is necessary to provide investigators with access to private property in order to perform field tests
- ⇒ Rain fall can hamper efforts to monitor flows and visual inspections. In addition, smoke testing and dye testing may become more difficult, depending on the severity of the storm event. Smoke testing has roughly the same efficiency as door-to-door investigation, and both smoke and dye testing are more accurate than visual inspection.

Applications:

Identifying illicit and improper connections are necessary for all sewer systems, especially in areas where pollutants with unknown sources have been detected in receiving waters.

Implementation:

- ⇒ Institute building and plumbing codes to prevent connections of potentially hazardous pollutants to storm drains.
- ⇒ Organize structures to be inspected by building age, with older buildings identified as priorities. Buildings whose processes have the potential to affect water quality also should be given priority.
- ⇒ Map each area to be surveyed and indicate the route of the sewer system and the locations of storm drains on the map. This enables planners to estimate the likely locations of illicit connections. A Geographic Information System (GIS) is an appropriate tool for identifying illicit discharges. The location of illicit discharges can be maintained by a geo-coded address. The attributes for illicit discharges are Standard Industrial Code (SIC) code, owner/occupant information, inspection schedule, inspection dates, and comments.
- ⇒ Survey individual buildings to discover where connections to storm drains exist.
- ⇒ Inspect sewer lines with television equipment to visually identify all physical connections.
- ⇒ Compare the results of the field tests and the video inspection with the known connections on the map. Suspicious areas should be further investigated.
- ⇒ Institute mandatory inspections for new developments or remodeling to identify illicit connections to the storm sewer system.
- ⇒ Remove and test sediment from the catch basins or equivalent structures.
- ⇒ Inspect connections in question to determine whether they should be connected to the storm drain system or to the sanitary sewer. Use methods of identification such as dye testing, visual inspection, smoke testing, or flow monitoring, as described below.

Maintenance:

- ⇒ Identify illicit discharges with teams of at least two people (volunteers can be used), plus administrative personnel, depending on the complexity of the storm sewer system. Take baseline samples throughout the city so that future illicit discharge pollution identification efforts can be better established.

Specific Methods for Detecting Illicit Connections

- ⇒ **Dye Testing.** Flushing fluorometric dye into suspicious downspouts can be useful to identify illicit connections. Once the dye has been introduced into the storm system via the connection in question, the water in the collection system is monitored to determine whether an illicit connection is present.
- ⇒ **Visual Inspection.** Remotely guiding television cameras through sewer lines is another way to identify physical connections.
- ⇒ **Smoke Testing.** Smoke testing is another method used to discover illicit connections. Zinc chloride smoke is injected into the sewer line and emerges via vents on connected buildings or through cracks or leaks in the sewer line. Monitoring and recording where the smoke emerges, crews can identify all connections, legal and illegal, to the sewer system. Mechanisms on drains should prevent the smoke from entering buildings; however, in some instances, this will occur. It is important to notify the public that the smoke is non-toxic, though it should be avoided as it can cause irritation of the nose and throat for some people.
- ⇒ **Flow Monitoring.** Monitoring increases in storm sewer flows during dry periods can also lead investigators to sources of infiltration due to improper connections.
- ⇒ **Infrared, Aerial, and Thermal Photography.** Researchers are experimenting with the use of aerial, infrared, and thermal photography to locate dischargers by studying the temperature of the stream water in areas where algae might be concentrated and in soils. It also examines land surface moisture and vegetative growth. This technique assumes that a failing Onsite Disposal System (OSDS), for example, would have more moisture in the surface soil, the area would be warmer, and the vegetation would grow faster than in the surrounding area.

Source: EPA website. Office of Water. National Menu of Best Management Practices for Storm Water Phase II. July 1, 2002. <http://www.epa.gov/npdes/menuofbmps/menu.htm>



Location of Illicit Discharges: Floatable Debris



Description:

Identifying the source of floatable material in stormwater is key to developing a program to control it. By expanding existing programs the City can attempt to track floatable debris to its source.

Clogged drains and storm drain inlets can cause the drains to overflow, leading to increased erosion. Benefits of cleaning include increased dissolved oxygen, reduced levels of bacteria, and support of instream habitat. Areas with relatively flat grades or low flows should be given special attention because they rarely achieve high enough flows to flush themselves.

Advantages:

- ⇒ Improved storm water drainage.
- ⇒ Educates high school students and the community while generating useful information for the program.

Disadvantages:

- ⇒ High cost of program materials and monitoring.
- ⇒ Difficult to control the use of floatable material.
- ⇒ May be difficult to find high schools interested in participating in the program.
- ⇒ Illegal dumping is often spurred by cost and convenience considerations, and a number of factors encourage this practice. The cost of fees for dumping at a proper waste disposal facility are often more than the fine for an illegal dumping offense, thereby discouraging people from complying with the law.

Applicability:

- ⇒ Areas with heavier rainfall, due to the greater volume of runoff.
- ⇒ In more urbanized areas, where illegal dumping may occur due to inaccessibility of recycling or solid waste disposal centers, which are often located on the suburban-rural fringe.

Implementation:

- ⇒ Utilize the Storm Drain Detectives Program in which high school students conduct a floatable debris characterization study to identify specifically what the debris in the stream consists of (i.e., 20% Styrofoam cups, 30% fast food wrappers, 10% empty soda cans or bottles, etc.). A drainage system inventory would be conducted to locate the most severe problem (i.e., downstream of parks, schools, fast food restaurants, etc.). This inventory would be based on volume collected during a set period of time.
- ⇒ Evaluate source control strategy options.
- ⇒ Increase frequency of trash collection at specific locations.
- ⇒ Change City codes and ordinances to restrict use of floatable materials if a specific segment of the community can be identified as causing a disproportionate share of the problem.
- ⇒ Modify catch-basin inlet design to include a screen that will prevent floatable debris from entering the piped conveyance system.
- ⇒ Consider end-of-pipe separators (i.e., swirl concentrators).



Source: EPA website. Office of Water. National Menu of Best Management Practices for Storm Water Phase II. July 1, 2002. <http://www.epa.gov/npdes/menuofbmps/menu.htm>

Methods for Floatable Debris Control



Source Control:

- ⇒ The obvious first step in source control is to prevent trash from entering the drains to become floatable debris. This prevention measure requires public education about the stormwater drainage system. To further encourage proper disposal, additional trash cans may be installed in public areas to provide additional places of disposal other than the stormwater drains.
- ⇒ Bar screens and other filter type devices installed at the entrance and exit of the stormwater drain prevent some debris from continuing to the outfall. For example, the FloGard+PLUS (manufactured by KriStar Enterprises) fits in storm drains to capture sediment, debris, trash, oils and grease. This device can accommodate low, high, and sustained high flows while continuing to retain collected pollutants.
- ⇒ Consider installing pipe outlet covers on pipes at the outlet of sumped catch basins to stop both free-oil and floatable debris. An example is the SNOOT Stormwater Quality Improvement System (manufactured by Best Management Products, Inc.) that consists of a plastic hood that covers the outlet of the pipe.
- ⇒ Street sweeping, which is developed in another BMP, helps reduce the amount of refuse that ends up in the drainage system.
- ⇒ Encourage community members to recycle yard waste such as grass clippings by leaving them on their lawns instead of dumping.

End-of-Pipe Control: Consider installing...

- ⇒ **Swirl Concentrators.** The flow into the concentrator causes a swirling motion around the removal chamber which encourages sedimentation. Units are typically sized to achieve an average of 80 percent removal of TSS over time. These devices are installed in underground vaults to effectively treat stormwater by removing and retaining sediments and floatables from site runoff. Specific products include V2B1, Vortechs, and Downstream Defender.
- ⇒ **Wet Vaults.** Wet vaults collect and hold floatable debris, bed load material, free oil and grease, settleable sediments and those dissolved pollutants including metals, nitrogen and phosphorous nutrients, and soluble organic compounds. The collected contaminants are retained by the system until they are removed by routine maintenance. Systems like the Jensen or Teichert Interceptor consist of rectangular concrete vaults that are typically multi-chambered with interior chambers separated by baffle walls. Units should be sized based on settling of particles. Other manufacturers such as BaySaver and Stormceptor design round wet vaults. All of these manufacturers produce several models with a range of flow capacities.
- ⇒ **Media Filters.** Media filters are vertical cylinders with a unit capacity of 15 gpm. Multiple cylinders can be used to accommodate the desired system capacity. These cylinders are placed in line, in a vault. Water enters radially through the filter media into an inner cylinder. The filtered water passes downward to an underlain system that is contained in the bottom slab. Media filters can maximize the flow-through rate as each cylinder contains a simple, non-mechanical vacuum device that prevents water from flowing through the cylinder until the water has risen to the top of the cylinder. Primary constituents targeted for removal include dissolved metals and nutrients. Filters can be effective where land is at a premium, but they do require regular maintenance. When filters are undersized or left unmaintained, fine sediment accumulates on their surface and clogs the filter. Stormwater Management markets a filter called a StormFilter.
- ⇒ **Deflection Screens.** Deflection screens are similar to swirl concentrators in that they have a circular removal chamber and flow moves in a circular motion. However, vortex separation is not induced with a deflection screen. Instead removal is accomplished with a screen located around the outer perimeter of the removal chamber. Settleable solids drop at the interface of the screen while the floatables pass upward. The hydraulic action in this device prevents clogging of the screen. CDS (Continuous Deflective Separation) Technologies currently manufactures this device.
- ⇒ **Check Valves.** Consider installing check valves (like the Tideflex manufactured by Red Valve Company, Inc.) to prevent backflow from washing collected floatable debris out of catchments, racks or screens. A check valve must be used in conjunction with a floatable collection system.

Table of Methods for Floatable Debris Control

Type of Device	Product	Company	Product Description	Target Constituents
Wet Vault	Jensen Interceptor	Jensen Precast	Multiple chambers in series separated by baffles. Contains standing water, or dead storage, which enhances treatment.	Settleable and floatable solids, oil/grease and particulate pollutants.
Wet Vault	Teichert Interceptor	Teichert Precast	Multiple chambers in series separated by baffles. Contains standing water, or dead storage, which enhances treatment.	Settleable and floatable solids, oil/grease and particulate pollutants.
Wet Vault	BaySaver	BaySaver, Inc.	Two standard manholes. One for removal of sediment and separation of floatables which are diverted by a special device into the other manhole for storage. Diversion device passes extreme flows through the unit.	Settleable and floatable solids, oil/grease and particulate pollutants.
Wet Vault	Stormceptor	CSR Hydro Conduit	A weir insert placed in a round manhole vault to improve hydraulics thereby improving removal efficiency and retention of sediment. Device can handle low and high flows.	Settleable and floatable solids, oil/grease and particulate pollutants.
Swirl Concentrator	Downstream Defender	H.I.L. Technology, Inc.	Uses vortex separation with device installed in a round single manhole vault.	Settleable and floatable solids, oil/grease and particulate pollutants.
Swirl Concentrator	Vortechs	Vortechnics	Vortex separation with the swirl device placed in a rectangular, shallow vault. Comes in nine standard sizes.	Settleable and floatable solids, oil/grease and particulate pollutants.
Swirl Concentrator	V2B1	Vistner Concrete	Two manholes in series. Vortex separation removes particulates and floatables in first manhole. Floatables move to a chamber in the second manhole for storage. Diverter in first manhole bypasses high flows on opposite sides of the screen which also prevents clogging of the screen.	Settleable and floatable solids, oil/grease and particulate pollutants.
Deflection Screen	CDS (Continuous Deflective Separation)	CDS Technologies	Circular device in which flow is directed to create circular flows like a vortex. Removal occurs as the water passes through a screen around the outer perimeter. Removal induced by countercurrent flows on opposite sides of the screen which also prevents clogging of the screen.	Settleable and floatable solids, oil/grease and particulate pollutants.
Media Filter	StormFilter	Stormwater Management	Vertical cylinder with media of various types placed in the cylinder. Water enters laterally through the filter, enters a vertical center well which exits to an underdrain system. Number of cylinders is a function of design peak flow.	Varies with media. All reduce settleable solids. Some remove dissolved nutrients or dissolved metals.
Check Valve	Tideflex	Red Valve Company, Inc.	Used in conjunction with a floatable collection system, a check valve prevents backflow from washing collected debris out of catchments.	Floatable debris
Bar Screen	FloGard+PLUS	KriStar Enterprises	Fits in storm drain to collect pollutants. This device accommodates low, high, and sustained high flows.	Sediment, debris, trash, oils and grease.
Pipe Outlet Cover	SNOUT Stormwater Quality Improvement System	Best Management Products, Inc.	Plastic hood that covers pipe outlet of sumped catch basins.	Floatable debris and free-oil.

Source: Sacramento Stormwater Management Program. "Investigation of Structural Control Measures for New Development." Prepared by Larry Walker Assoc., Nov. 1999.



Ordinance



Description:

The management of storm water runoff from sites after the construction phase is vital to controlling the impacts of development on urban water quality. The increase in impervious surfaces such as rooftops, roads, parking lots, and sidewalks due to land development can have a detrimental effect on aquatic systems. Heightened levels of impervious cover have been associated with stream warming and loss of aquatic biodiversity in urban areas. Runoff from impervious areas can also contain a variety of pollutants that are detrimental to water quality, including sediment, nutrients, road salts, heavy metals, pathogenic bacteria, and petroleum hydrocarbons.

An ordinance promotes the public welfare by guiding, regulating, and controlling the design, construction, use, and maintenance of any development or other activity that disturbs or breaks the topsoil or results in the movement of earth on land. The goal of a storm water management ordinance for postconstruction runoff is to limit surface runoff volumes and reduce water runoff pollutant loadings.

Benefits:

- ⇒ Minimize the increase in storm water runoff from any development to reduce flooding, siltation, and streambank erosion and to maintain the integrity of stream channels.
- ⇒ Minimize the increase in nonpoint source pollution caused by storm water runoff from development that would otherwise degrade local water quality.

- ⇒ Minimize the total annual volume of surface water runoff that flows from any specific site during and following development so as not to exceed the predevelopment hydrologic regime to the maximum extent practicable.
- ⇒ Reduce storm water runoff rates and volumes, soil erosion, and nonpoint source pollution, wherever possible, through storm water management controls. Ensure that these management controls are properly maintained and pose no threat to public safety.

Limitations:

- ⇒ Site inspections are required for a postconstruction storm water ordinance to be effective.

An adequate staff must be available to review permit applications and proposed plans.

Applicability:

These ordinances are applicable to all major subdivisions in a municipality. The size of the development to which postconstruction storm water management runoff control applies varies, but many communities opt for a size limit of 5,000 square feet or more. Applicability should be addressed in more detail in the ordinance itself. It is important to note that all plans must be reviewed by local environmental protection officials to ensure that established water quality standards will be maintained during and after development of the site and that postconstruction runoff levels are consistent with any local and regional watershed plans.

- ⇒ Several resources are available to assist in developing an ordinance. EPA's 2000 postconstruction model ordinance web site (<http://www.epa.gov/nps/ordinance/postcons.htm>) provides a model ordinance and examples of programs currently being implemented. In addition, the Stormwater Managers Resource Center (<http://www.stormwatercenter.net>), which was created by the Center for Watershed Protection and sponsored by the U.S. Environmental Protection Agency, provides information to storm water management program managers in Phase II communities to assist in meeting the requirements of the National Pollutant Discharge Elimination System Phase II regulations.

Siting and Design Considerations:

The purpose of the postconstruction ordinance is to establish storm water management requirements and controls to protect and safeguard the general health, safety, and welfare of the public residing in watersheds within a jurisdiction. The following paragraphs provide the general language and concepts that can be included in the ordinance.

⇒ General Provisions

This section should identify the purpose, objectives, and applicability of the ordinance. The size of the development to which post-construction runoff controls

Ordinance (continued)

ply varies, but many communities opt for a size limit of 5,000 square feet or more. This section can also contain a discussion of the development of a storm water design manual. This manual can include a list of acceptable storm water treatment practices and may include the specific design criteria for each storm water practice. In addition, local communities should select the minimum water quality performance standards they will require for storm water treatment practices, and place them in the design manual.

⇒ *Definitions*

It is important to define the terms that will be used throughout the ordinance to assist the reader and prevent misinterpretation.

⇒ *Permit Procedures and Requirements*

This section should identify the permit required; the application requirements, procedures, and fees; and the permit duration. The intent of the permit should ensure that no activities that disturb the land are issued permits prior to review and approval. Communities may elect to issue a storm water management permit separate from any other land development permits required, or, as in this ordinance, to tie the issuing of construction permits to the approval of a final storm water management plan.

⇒ *Waivers to Storm Water Management Requirements*

This section should discuss the process for requesting a waiver and to whom this waiver would be applicable. Alternatives such as fees or other provisions for requesting a waiver should be addressed.

⇒ *General Performance Criteria for Storm Water Management*

The performance criteria that must be met should be discussed in this section. The performance criteria can include the following:

- All sites must establish storm water practices to control the peak flow rates of storm water discharge associated with specified design storms and reduce the generation of storm water.
- New development may not discharge untreated storm water directly into a jurisdictional wetland or local waterbody without adequate treatment.
- Annual groundwater recharge rates must be maintained by promoting infiltration through the use of structural and non-structural methods.
- For new development, structural sewage treatment plants must be designed to remove a certain percentage of the average annual postdevelopment total suspended solids (TSS) load.

⇒ *Basic Storm Water Management Design Criteria*

Rather than place specific storm water design criteria into an ordinance, it is often preferable to fully detail these requirements into a storm water design manual. This approach allows specific design information to be changed over time as new information or techniques become available without requiring the formal process needed to change ordinance language. The ordinance can then require those submitting any development application to consult the current storm water design manual for the exact design criteria for the storm water management practices appropriate for their site.

Topics in the manual can include minimum control requirements, site design feasibility, conveyance issues, pretreatment requirements, and maintenance agreements.

⇒ *Requirements for Storm Water Management Plan Approval*

The requirements for a storm water management plan to be approved should be addressed in this section. This can be accomplished by including a submittal checklist in the storm water design manual. A checklist is particularly beneficial because changes in submittal requirements can be made as needed without needing to revisit and later revise the original ordinance.

⇒ *Construction Inspection*

This section should include information on the notice of construction commencement, as-built plans, and landscaping and stabilization requirements.

⇒ *Maintenance and Repair of Storm Water Facilities*

Maintenance agreements, failure to maintain practices, maintenance covenants, right-of-entry for inspection, and records of installation and maintenance activities should be addressed in this section.

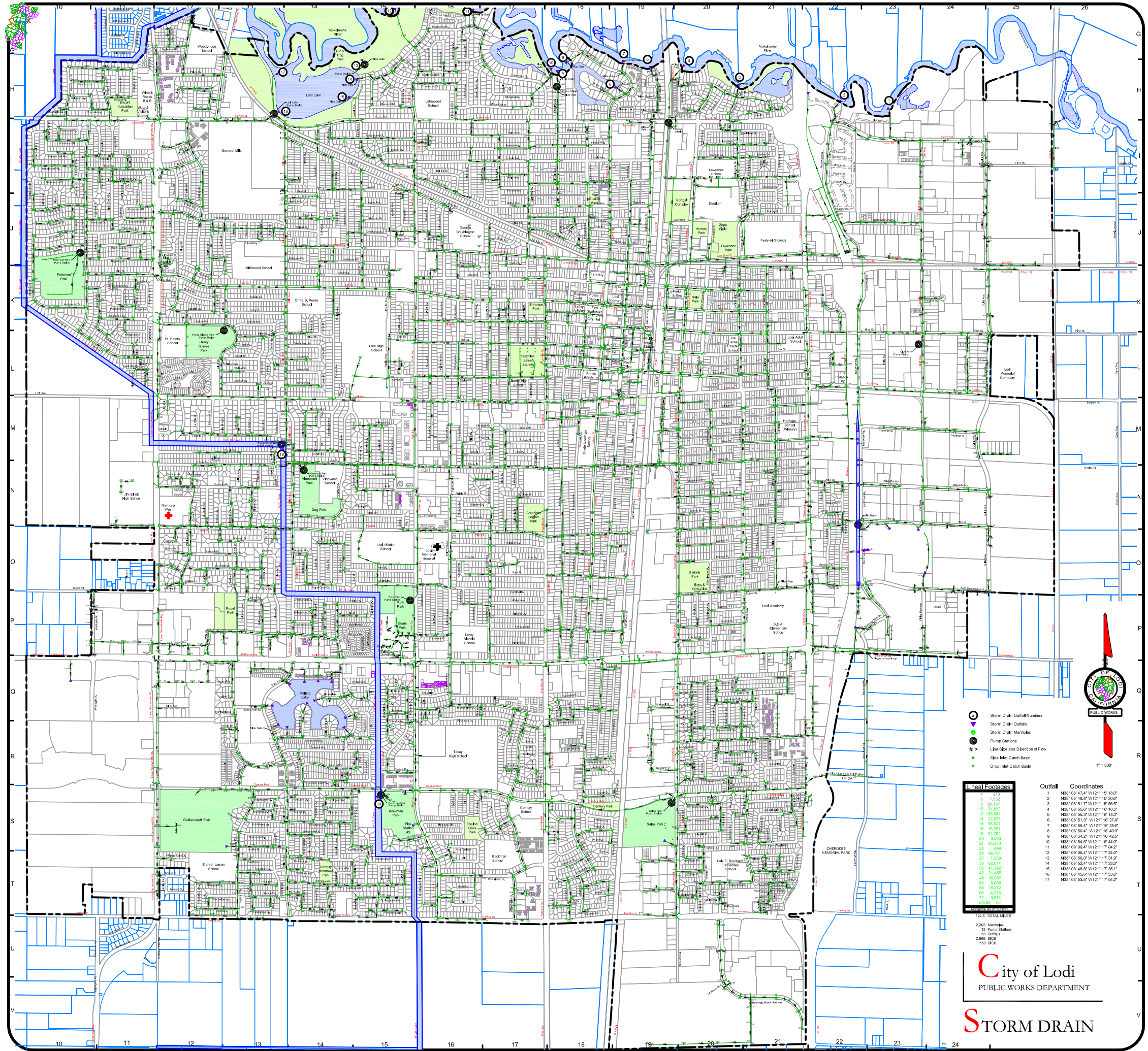
⇒ *Enforcement and Penalties*

This section should include information regarding violations, notices of violation, stop work orders, and civil and criminal penalties.

Maintenance:

The operation and maintenance language in a storm water ordinance can ensure that designs facilitate easy maintenance and that regular maintenance activities are completed. In the "Maintenance and Repair of Storm Water Facilities" section of the ordinance, it is important to include language regarding a maintenance agreement, failure to maintain practices, maintenance covenants, right-of-entry for inspection, and records of installation and maintenance activities.

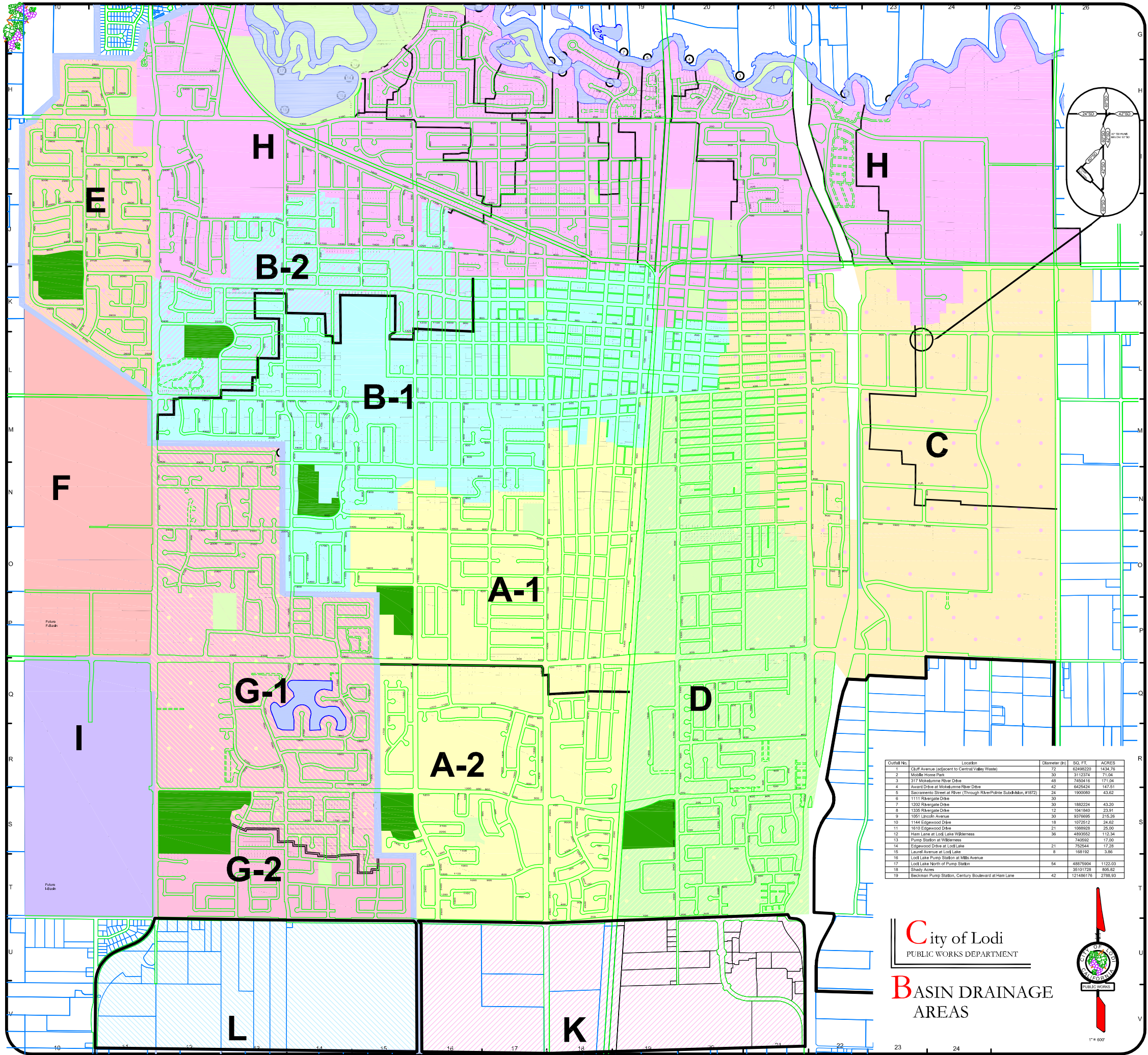
APPENDIX B
STORM WATER SYSTEM MAPS



Line Footages	
1	2,273
2	1,252
3	26,187
4	31,832
5	136,384
6	22,675
7	58,821
8	15,281
9	81,752
10	3,050
11	24,473
12	66,761
13	27,309
14	30,614
15	41,192
16	21,452
17	26,987
18	5,685
19	19,272
20	4,326
21	3,574
22	3,574
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100	3,574

2,203 Manholes
13 Pump Stations
70 Outfalls
2,888 SCS
595 DCS

City of Lodi
PUBLIC WORKS DEPARTMENT
STORM DRAIN



Outfall No.	Location	Diameter (in)	SQ. FT.	ACRES
1	Cliff Avenue (adjacent to Central Valley Waste)	72	6249220	1434.76
2	Mobile Home Park	30	3112324	71.04
3	317 Mokelumne River Drive	48	7450416	171.04
4	Avant Drive at Mokelumne River Drive	42	6425424	147.51
5	Sacramento Street at River (Through RiverPointe Subdiv. #1872)	24	1950080	43.62
6	1111 Rivergate Drive	30		
7	1202 Rivergate Drive	30	1862224	43.20
8	1335 Rivergate Drive	12	1061640	23.91
9	1051 Lincoln Avenue	30	9376696	215.26
11	1144 Edgewood Drive	18	1072512	24.62
12	Hart Lane at Lodi Lake Wilderness	36	4893652	112.34
13	Pump Station at Wilberness		740592	17.00
14	Edgewood Drive at Lodi Lake	21	752544	17.28
15	Leard Avenue at Lodi Lake	8	168192	3.86
16	Lodi Lake Pump Station at Mills Avenue		48876904	1122.03
17	Lodi Lake North of Pump Station	54		
18	Shady Avenue	36	3513128	806.62
19	Beckman Pump Station, Century Boulevard at Hart Lane	42	121486176	2788.93

City of Lodi
PUBLIC WORKS DEPARTMENT
BASIN DRAINAGE
AREAS



APPENDIX C
MS4 GENERAL PERMIT

STATE WATER RESOURCES CONTROL BOARD (SWRCB)
WATER QUALITY ORDER NO. 2003 – 0005 – DWQ

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)
GENERAL PERMIT NO. CAS000004

WASTE DISCHARGE REQUIREMENTS (WDRS)
FOR
STORM WATER DISCHARGES FROM
SMALL MUNICIPAL SEPARATE STORM SEWER SYSTEMS (GENERAL PERMIT)

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Attachment 2: Areas Designated by the State	
Attachment 3: Non-Traditional Small MS4s	
Attachment 4: Supplemental Provisions	
Attachment 5: Communities Subject to Attachment 4	
Attachment 6: Instructions for Completing the Notice of Intent to Comply with the General Permit for the Discharge of Storm Water From Small MS4s	
Attachment 7: Notice of Intent to Comply with the General Permit for the Discharge of Storm Water From Small MS4s	
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FACT SHEET
FOR
STATE WATER RESOURCES CONTROL BOARD (SWRCB)
WATER QUALITY ORDER NO. 2003 – 0005 – DWQ

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)
GENERAL PERMIT NO. CAS000004

WASTE DISCHARGE REQUIREMENTS (WDRS)
FOR
STORM WATER DISCHARGES FROM
SMALL MUNICIPAL SEPARATE STORM SEWER SYSTEMS (GENERAL PERMIT)

BACKGROUND

In 1972, the federal Water Pollution Control Act (also referred to as the Clean Water Act [CWA]) was amended to provide that the discharge of pollutants to waters of the United States from any point source is unlawful unless the discharge is in compliance with a NPDES permit. The 1987 amendments to CWA added section 402(p), which established a framework for regulating storm water discharges under the NPDES Program. Subsequently, in 1990, the U.S. Environmental Protection Agency (U.S. EPA) promulgated regulations for permitting storm water discharges from industrial sites (including construction sites that disturb five acres or more) and from municipal separate storm sewer systems (MS4s) serving a population of 100,000 people or more. These regulations, known as the Phase I regulations, require operators of medium and large MS4s to obtain storm water permits. On December 8, 1999, U.S. EPA promulgated regulations, known as Phase II, requiring permits for storm water discharges from Small MS4s and from construction sites disturbing between one and five acres of land. This General Permit regulates storm water discharges from Small MS4s.

An “MS4” is a conveyance or system of conveyances (including roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, man-made channels, or storm drains): (i) designed or used for collecting or conveying storm water; (ii) which is not a combined sewer; and (iii) which is not part of a Publicly Owned Treatment Works (POTW). [See Title 40, Code of Federal Regulations (40 CFR) §122.26(b)(8).]

A “Small MS4” is an MS4 that is not permitted under the municipal Phase I regulations, and which is “owned or operated by the United States, a State, city, town, borough, county, parish, district, association, or other public body (created by or pursuant to State law) having jurisdiction over disposal of sewage, industrial wastes, storm water, or other wastes, including special districts under State law such as a sewer district, flood control district or drainage district, or similar entity....” (40 CFR §122.26(b)(16)). *Small MS4s include systems similar to separate storm sewer systems in municipalities, such as systems at military bases, large hospital or prison complexes, and highways and other thoroughfares, but do not include separate storm sewers in*

very discrete areas, such as individual buildings. This permit refers to MS4s that operate throughout a community as “traditional MS4s” and MS4s that are similar to traditional MS4s but operated at a separate campus or facility as “non-traditional MS4s.”

Federal regulations allow two permitting options for storm water discharges (individual permits and general permits). SWRCB elected to adopt a statewide general permit for Small MS4s in order to efficiently regulate numerous storm water discharges under a single permit. In certain situations a storm water discharge may be more appropriately and effectively regulated by an individual permit, a region-specific general permit, or by inclusion in an existing Phase I permit. In these situations, the Regional Water Quality Control Board (RWQCB) Executive Officer will direct the Small MS4 operator to submit the appropriate application, in lieu of a Notice of Intent (NOI) to comply with the terms of this General Permit. In these situations, the individual or regional permits will govern, rather than this General Permit.

NINTH CIRCUIT COURT RULING

On January 14, 2003, the Ninth Circuit Court issued its decision in *Environmental Defense Center v. EPA*. This ruling upheld the Phase II regulations on all but three of the 20 issues contested. In summary, the court determined that applications for general permit coverage (including the NOI and Storm Water Management Program [SWMP]) must be made available to the public, the applications must be reviewed and determined to meet the Maximum Extent Practicable standard by the permitting authority before coverage commences, and there must be a process to accommodate public hearings. This General Permit is consistent with the ruling. Should the ruling be revised or vacated in the future, SWRCB may modify the General Permit.

ENTITIES SUBJECT TO THIS GENERAL PERMIT

This General Permit regulates discharges of storm water from “regulated Small MS4s.” A “regulated Small MS4” is defined as a Small MS4 that discharges to a water of the United States (U.S.) or to another MS4 regulated by an NPDES permit, and which is designated in one of the following ways:

1. Automatically designated by U.S. EPA pursuant to 40 CFR section 122.32(a)(1) because it is located within an urbanized area defined by the Bureau of the Census (see Attachment 1); or
2. Traditional Small MS4s that serve cities, counties, and unincorporated areas that are designated by SWRCB or RWQCB after consideration of the following factors:
 - a. High population density – High population density means an area with greater than 1,000 residents per square mile. Also to be considered in this definition is a high density created by a non-residential population, such as tourists or commuters.
 - b. High growth or growth potential – If an area grew by more than 25 percent between 1990 and 2000, it is a high growth area. If an area anticipates a growth rate of more than 25 percent over a 10-year period ending prior to the end of the first permit term, it has high growth potential.

- c. Significant contributor of pollutants to an interconnected permitted MS4 – A Small MS4 is interconnected with a separately permitted MS4 if storm water that has entered the Small MS4 is allowed to flow directly into a permitted MS4. In general, if the Small MS4 discharges more than 10 percent of its storm water to the permitted MS4, or its discharge makes up more than 10 percent of the other permitted MS4's total storm water volume, it is a significant contributor of pollutants to the permitted MS4. In specific cases, the MS4s involved or third parties may show that the 10 percent threshold is inappropriate for the MS4 in question.
- d. Discharge to sensitive water bodies – Sensitive water bodies are receiving waters, which are a priority to protect. They include the following:
- those listed as providing or known to provide habitat for threatened or endangered species;
 - those used for recreation that are subject to beach closings or health warnings; or
 - those listed as impaired pursuant to CWA section 303(d) due to constituents of concern in urban runoff (these include biochemical oxygen demand [BOD], sediment, pathogens, petroleum hydrocarbons, heavy metals, floatables, polycyclic aromatic hydrocarbons [PAHs], trash, and other constituents that are found in the MS4 discharge).

Additional criteria to qualify as a sensitive water body may exist and may be determined by SWRCB or RWQCB on a case-by-case basis.

- e. Significant contributor of pollutants to waters of the U.S. – Specific conditions presented by the MS4 may lead to significant pollutant loading to waters of the U.S. that are otherwise unregulated or inadequately regulated. An example of such a condition may be the presence of a large transportation industry.

These factors are to be considered when evaluating whether a Small MS4 should be regulated pursuant to this General Permit. An MS4 and the population that it serves need not meet all of the factors to be designated. SWRCB designates a number of Small MS4s according to these criteria through this General Permit (see Attachment 2).

Non-traditional Small MS4s may also be designated to seek permit coverage. These include non-traditional MS4s that are located within or discharge to a permitted MS4 and those that pose significant water quality threats. In general, these are storm water systems serving public campuses (including universities, community colleges, primary schools, and other publicly owned learning institutions with campuses), military bases, and prison and hospital complexes within or adjacent to other regulated MS4s, or which pose significant water quality threats. SWRCB considered designating non-traditional Small MS4s when adopting this General Permit. However, the *Environmental Defense Center* ruling requires that SWRCB and RWQCBs change their procedures for implementing this General Permit. In compliance with that decision, each

NOI and SWMP must be reviewed and approved, and in some cases considered in a public hearing, prior to the Small MS4 obtaining coverage under the General Permit. Therefore, SWRCB is delaying making these designations and the General Permit does not designate any non-traditional MS4s. A list of non-traditional MS4s that are anticipated to be designated within this permit term is included in Attachment 3 of this General Permit. These or other non-traditional MS4s may be designated by SWRCB or RWQCB at any time subsequent to the adoption of this General Permit.

The criteria selected to designate Small MS4s to be regulated are based on the potential to impact water quality due to conditions influencing discharges into their system or due to where they discharge. Some of the definitions provide “cut-off numbers.” Although there is no regulatory standard that mandates which numbers to use, dividing lines must be established in order to effectively use them as criteria.

Specifically, the high growth factor uses 25 percent growth over ten years. The average growth (based on county data from the Census) in California between 1990 and 2000 was 15.8 percent. The standard deviation was 9.9. Growth rates outside one standard deviation are more than 25.7 percent. The standard deviation is generally an indication of the spread of data. In defining the high growth factor, the standard deviation was used because it sets the limits within which most areas of California fall. County data was used because it was consistently available, whereas 1990 populations for several of the cities and places were not readily available. Additionally, county data gives a broader picture of the growth dynamics in California. Because the data is not normally distributed, 68 percent of the data points do not necessarily fall within one standard deviation of the mean. It does, however, provide a number in which to compare city and place growth rates to the average growth rate of California. The number was rounded to 25 percent for ease of application and with the understanding that it is an approximation.

The significant contributor of pollutants to an interconnected permitted MS4 definition uses a volume value of 10 percent, with the assumption that storm water contains pollutants. This is meant to capture flows that may affect water quality or the permit compliance status of another MS4, but exclude incidental flows between communities.

APPLICATION REQUIREMENTS

Regulated Small MS4s, automatically designated because they are within an urbanized area (Attachment 1), must submit to the appropriate RWQCB by August 8, 2003 a complete application package. A complete package includes an NOI (Attachment 7), a complete SWMP (one hard copy and one electronic copy in Word or PDF format), and an appropriate fee.

The August 8, 2003 deadline is an administrative deadline to comply with the General Permit. Section 122.33(c)(1) of 40 CFR required automatically designated Small MS4s to submit an application by March 10, 2003. Those applications received from Small MS4s that submitted applications to comply with the federal deadline will be considered as an application to meet the requirements of this General Permit. If the application package is deemed complete by the RWQCB staff, it will be posted on the internet and made available for public review and public hearing if requested subsequent to permit adoption.

Regulated Small MS4s that are traditional MS4s designated by the SWRCB or RWQCB must submit to the appropriate RWQCB, within 180 days of notification of designation (or at a later

date stated by SWRCB or RWQCB), an NOI (Attachment 7), a complete SWMP (one hard copy and one electronic copy in Word or PDF format), and an appropriate fee. Those traditional MS4s identified in Attachment 2 of this General Permit are being notified of their designation by SWRCB upon adoption of this General Permit. They must, therefore, submit their NOI and SWMP by October 27, 2003.

Regulated Small MS4s that are non-traditional MS4s designated by SWRCB or RWQCB, including those in Attachment 3, must submit to the appropriate RWQCB, within 180 days of notification of designation (or at a later date stated by SWRCB or RWQCB), an NOI (Attachment 7), a complete SWMP (one hard copy and one electronic copy in Word or PDF format), and an appropriate fee.

Regulated Small MS4s relying entirely on Separate Implementing Entities (SIEs) that are also permitted, to implement their entire storm water programs are not required to submit a SWMP if the SIE being relied on has an approved SWMP. Proof of SWMP approval, such as a copy of the RWQCB letter, must be submitted to the RWQCB by the applying Small MS4, along with the NOI and an appropriate fee.

Regulated Small MS4s that fail to obtain coverage under this General Permit or another NPDES permit for storm water discharges will be in violation of the CWA and the Porter-Cologne Water Quality Control Act.

Receipt of applications deemed complete by RWQCB staff will be acknowledged on SWRCB's website at <http://www.swrcb.ca.gov/stormwtr/index.html> for a minimum of 60 days. When a SWMP is received by an RWQCB, those members of the public that have indicated they would like to receive notice, will receive an email from RWQCB staff that a SWMP has been received. During this 60-day public review period, a member of the public may request a copy of the SWMP and request that a public hearing be held by RWQCB. If a public hearing is requested, the hearing itself will be public noticed for a minimum of 30 days. If no hearing is requested, the RWQCB Executive Officer will notify the regulated MS4 that it has obtained permit coverage only after RWQCB staff has reviewed the SWMP and has determined that the SWMP meets the MEP standard established in this permit.

Attachment 8 lists RWQCB contact information for questions and submittals.

GENERAL PERMIT REQUIREMENTS

Prohibitions

This General Permit effectively prohibits the discharge of materials other than storm water that are not "authorized non-storm water discharges" (see General Permit § D.2.c) or authorized by a separate NPDES permit. This General Permit also incorporates discharge prohibitions contained in Statewide Water Quality Control Plans and Regional Water Quality Control Plans (Basin Plans).

Effluent Limitations

Permittees must implement Best Management Practices (BMPs) that reduce pollutants in storm water runoff to the technology-based standard of Maximum Extent Practicable (MEP) to protect water quality. In accordance with 40 CFR section 122.44(k)(2), the inclusion of BMPs in lieu of numeric effluent limitations is appropriate in storm water permits.

Discharges shall not contain reportable quantities of hazardous substance as established at 40 CFR section 117.3 or 40 CFR section 302.4.

Preparation of SWMP

This General Permit requires regulated Small MS4s to:

1. Develop and implement a SWMP that describes BMPs, measurable goals, and timetables for implementation in the following six program areas (Minimum Control Measures):

Public Education

The Permittee must educate the public in its permitted jurisdiction about the importance of the storm water program and the public's role in the program.

Public Participation

The Permittee must comply with all State and local notice requirements when implementing a public involvement/participation program.

Illicit Discharge Detection and Elimination

The Permittee must adopt and enforce ordinances or take equivalent measures that prohibit illicit discharges. The Permittee must also implement a program to detect illicit discharges.

Construction Site Storm Water Runoff Control

The Permittee must develop a program to control the discharge of pollutants from construction sites greater than or equal to one acre in size within its permitted jurisdiction. The program must include inspections of construction sites and enforcement actions against violators.

Post Construction Storm Water Management

The Permittee must require long-term post-construction BMPs that protect water quality and control runoff flow, to be incorporated into development and significant redevelopment projects. Post-construction programs are most efficient when they stress (i) low impact design; (ii) source controls; and (iii) treatment controls.

For non-traditional MS4s that seek coverage under this Permit, implementation of this

control measure will not require redesign of projects under active construction at the time of designation or for K-12 school or community college facilities that have been submitted to the Department of General Services, Division of the State Architect before adoption of the permit, and which receive final approval from the State Allocation Board or the Public Works Board, as appropriate on or before December 31, 2004. SWMP must, however, specify how the control measure will be implemented within five years of designation.

Pollution Prevention/Good Housekeeping for Municipal Operations

The Permittee must examine its own activities and develop a program to prevent the discharge of pollutants from these activities. At a minimum, the program must educate staff on pollution prevention, and minimize pollutant sources.

2. Reduce its discharge of pollutants to the MEP.
3. Annually report on the progress of SWMP implementation.

Development and Implementation of SWMP

SWMP must describe how pollutants in storm water runoff will be controlled and describe BMPs that address the six Minimum Control Measures. Each BMP must have accompanying measurable goals that will be achieved during the permit term, or within five years of designation if designated subsequent to permit adoption, as a means of determining program compliance and accomplishments and as an indicator of potential program effectiveness. The measurable goals should be definable tasks such as number of outreach presentations to make, number of radio spots to purchase, or percentage of pollutant loading to reduce (other examples of measurable goals can be found on U.S. EPA's web-site at <http://cfpub.epa.gov/npdes/stormwater/measurablegoals/index.cfm>). This approach provides the flexibility to target an MS4's problem areas while working within the existing organization.

It is not anticipated that the SWMP be fully implemented upon submittal with the NOI. It is the intent of this General Permit that SWMPs submitted with the NOI contain sufficient information such that RWQCB staff and interested parties understand the BMPs that will be implemented or will be developed and implemented over the course of the General Permit term or, for Small MS4s designated subsequent to permit adoption, over a five-year period from designation. It is also expected that SWMPs will protect water quality, contain measurable goals and schedules, and assign responsible parties for each BMP. It is anticipated that the SWMP initially submitted may be revised or modified based on review of RWQCB staff or on comments provided by interested parties in accordance with Provisions G and H.19 of the General Permit.

For example, it may be proposed that a storm water logo be developed (or an existing one modified) by the end of the first year; an ordinance prohibiting non-storm water discharges be adopted by the end of the second year; a survey of non-storm water discharges throughout the city be completed by the end of the second year; a brochure targeting the restaurant community regarding proper practices to eliminate non-storm water discharges be developed or obtained by the end of the fourth year; and the brochure be distributed to 25 percent of the restaurants

within the city during health department inspections by the end of the fifth year. (This example mentions only one activity each year. In fact, numerous activities will occur throughout the permit term that ensure that a SWMP addressing all six Minimum Control Measures is implemented by the end of the permit term, or within five years of designation for Small MS4s designated subsequent to adoption of the Permit.)

The main goal of this General Permit is to protect water quality from the impacts of storm water runoff from Small MS4s. The intent is that storm water quality impacts will be considered in all aspects of a municipality's activities and that multiple departments within the municipality will work together to implement storm water BMPs. For instance, the planning department may work with the public works department when considering projects and their potential storm water impacts. Also, the health department can work with public works in a complementary manner to spread a consistent message about illicit discharges.

Many of the activities that a municipality already does can be recognized as a benefit to storm water or can be modified to add a storm water quality twist. A critical element of SWMP development is an assessment of activities already being conducted. For example, many communities already have a household hazardous waste program, which can be assumed to reduce illicit discharges to the MS4. Likewise, they examine potential flooding impacts of new development. This process can be modified to also examine water quality impacts as well as quantity.

Similarly, the Minimum Control Measures emphasize working with the public to prevent pollution during their everyday activities as well as to gain support for program funding. The MS4 has the flexibility to target specific segments of its residential or employee population in ways that are most appropriate for that particular segment. Taken together, the suite of public education approaches an MS4 takes can create a robust multimedia campaign that has a single message, which is threaded throughout the community through implementation of BMPs in the six program areas.

For links to information on how to implement each of the Minimum Control Measures, including sample ordinances that address the respective Minimum Control Measures, please see SWRCB's internet site at <http://www.swrcb.ca.gov/stormwtr/municipal.html>. Additionally, in accordance with 40 CFR section 122.34(d)(2), SWRCB provides U.S. EPA's menu of BMPs to consider when developing a SWMP. This menu is available on U.S. EPA's internet site at http://cfpub1.epa.gov/npdes/stormwater/swphase2.cfm?program_id=6. The menu provides examples of BMPs and associated measurable goals; however, other BMPs and measurable goals may be used.

MEP

MEP is the technology-based standard established by Congress in CWA section 402(p)(3)(B)(iii) that municipal dischargers of storm water must meet. Technology-based standards establish the level of pollutant reductions that dischargers must achieve. MEP is generally a result of emphasizing pollution prevention and source control BMPs as the first lines of defense in

combination with structural and treatment methods where appropriate serving as additional lines of defense. The MEP approach is an ever evolving, flexible, and advancing concept, which considers technical and economic feasibility. As knowledge about controlling urban runoff continues to evolve, so does that which constitutes MEP. The individual and collective activities elucidated in the MS4's SWMP become its proposal for reducing or eliminating pollutants in storm water to the MEP. The way in which MEP is met may vary between communities.

The MEP standard applies to all regulated MS4s, including those in Phase I and Small MS4s regulated by this General Permit. Consistent with U.S. EPA guidance, the MEP standard in California is applied so that a first-round storm water permit requires BMPs that will be expanded or better-tailored in subsequent permits. In choosing BMPs, the major focus is on technical feasibility, but cost, effectiveness, and public acceptance are also relevant. If a Permittee chooses only the most inexpensive BMPs, it is likely that MEP has not been met. If a Permittee employs all applicable BMPs except those that are not technically feasible in the locality, or whose cost exceeds any benefit to be derived, it would meet the MEP standard. MEP requires Permittees to choose effective BMPs, and to reject applicable BMPs only where other effective BMPs will serve the same purpose, the BMPs are not technically feasible, or the cost is prohibitive. (See SWRCB Order WQ 2000-11, <http://www.swrcb.ca.gov/resdec/wqorders/2000/00wqo.html>.)

Generally, in order to meet MEP, communities that have greater water quality impacts must put forth a greater level of effort. Alternatively, for similar water quality conditions, communities should put forth an equivalent level of effort. However, because larger communities have greater resources (both financial resources as well as existing related programs that can help in implementing storm water quality programs), it may appear that they have more robust storm water programs. Additionally, because storm water programs are locally driven and local conditions vary, some BMPs may be more effective in one community than in another. A community that has a high growth rate would derive more benefit on focusing on construction and post-construction programs than on an illicit connection program because illicit connections are more prevalent in older communities.

In accordance with the Ninth Circuit Court ruling, prior to obtaining permit coverage, SWMPs will be evaluated for compliance with the MEP standard by the RWQCB Executive Officer or, if requested, considered for approval in a public hearing conducted by RWQCB.

Many Phase I MS4s have been permitted under storm water regulations for more than ten years and have had that time to develop programs intended to reduce pollutants in their storm water discharge to MEP. It is understood that storm water quality programs and regulations are new to the entities that will be regulated under this General Permit. Therefore, it is anticipated that this General Permit term will serve as a "ramping-up" period and that programs implemented by Phase II communities will not necessarily conform to programs implemented by Phase I communities. Despite this understanding, however, many of the lessons learned and information developed by Phase I communities is available to smaller communities as a guide and may be used by Phase II communities.

By the expiration date of this General Permit, traditional and non-traditional Small MS4s serving a population of 50,000 people or more, or that are subject to high growth, must require specific design standards as part of their post-construction program (as outlined in Attachment 4 of this General Permit, or a functionally equivalent program that is acceptable to the appropriate RWQCB), and they must comply with water quality standards through implementing better-tailored BMPs in an iterative process. These more stringent requirements are applied to communities that are larger and, therefore, capable of a more extensive storm water program, and to communities that are fast growing, and therefore may have greater impacts on storm water runoff associated with construction and the loss of pervious lands. Studies have found the amount of impervious surface in a community is strongly correlated with the community's water quality. New development and redevelopment result in increased impervious surfaces in a community. The design standards in Attachment 4 focus on mitigating the impacts caused by increased impervious surfaces through establishing minimum BMP requirements that stress (i) low impact design; (ii) source controls; and (iii) treatment controls. The design standards include minimum sizing criteria for treatment controls and establish maintenance requirements.

BMPs that may be used to comply with the design standards can be found in U.S. EPA's Toolbox of BMPs at http://cfpub1.epa.gov/npdes/stormwater/swphase2.cfm?program_id=6. Additionally, some RWQCBs may have lists of approved references and resources.

Small MS4s designated subsequent to permit adoption have five years from designation to achieve compliance with the Supplemental Provisions. Attachment 5 provides a list of communities that SWRCB anticipates being subject to the provisions in Attachment 4.

Receiving Water Limitations

Attachment 4 establishes receiving water limitations that apply to larger and fast-growing regulated Small MS4s that are required to comply with Supplemental Provisions of this General Permit. This permit allows regulated Small MS4s up to five years to fully implement their SWMPs. Therefore, regulated Small MS4s must begin to comply with the receiving water limitations iterative process once their plans are fully implemented. The receiving water limitation language provided in this General Permit is identical to the language established in SWRCB Water Quality Order WQ-99-05 adopted by SWRCB on June 17, 1999. As interpreted in SWRCB Water Quality Order WQ-2001-15, adopted by SWRCB on November 15, 2001, the receiving water limitations in this General Permit do not require strict compliance with water quality standards. SWRCB language requires that SWMPs be designed to achieve compliance with water quality standards over time, through an iterative approach requiring improved BMPs. Upon full implementation of the SWMP, exceedances of water quality standards must be addressed through the iterative process.

Reporting Requirements

The Permittee must track and assess its program to ensure BMP effectiveness and must conform to other monitoring requirements that may be imposed by RWQCB.

The Permittee is required to submit annual reports to the appropriate RWQCB by September 15th of each year (for Small MS4s designated with the adoption of this permit, the first annual report is to be submitted in 2004), or as otherwise required by the RWQCB Executive Officer. Among other things, the Permittee shall evaluate its compliance with permit conditions, evaluate and assess the effectiveness of its BMPs, summarize the results of any monitoring performed, summarize the activities planned for the next reporting cycle, and, if necessary, propose changes to SWMP.

Monitoring

Inspections, as a form of visual monitoring, are important to a storm water program. Inspections of storm water runoff and infrastructure (such as drop inlets, basins, and gutters) can say a lot about the effectiveness and needs of a storm water program. Through inspections, non-storm water discharges can be discovered and subsequently stopped, maintenance needs can be identified, and visual pollutants and erosion problems can be detected. Inspections of facilities are also important for public education and outreach, to ensure proper BMP implementation and maintenance, and to detect non-storm water discharges. Additionally, chemical monitoring can be used to involve the public through citizen monitoring groups, detect pollutants, identify and target pollutants of concern, illustrate water quality improvements and permit compliance, and participate in total maximum daily load (TMDL) development and implementation.

Monitoring environmental indicators through bio-assessments or other less technical methods may also be a key component of a program. Although it may be more challenging, it is also very valuable because it is the “final product,” not just for a storm water program but for the broader environmental health of a community.

More specifically, the objectives of a monitoring program may include:

- Assessing compliance with this General Permit;
- Measuring and improving the effectiveness of SWMP;
- Assessing the chemical, physical, and biological impacts on receiving waters resulting from urban runoff;
- Characterizing storm water discharges;
- Identifying sources of pollutants; and
- Assessing the overall health and evaluating long-term trends in receiving water quality.

While only inspections of construction sites, as part of the Construction Site Storm Water Runoff Control Minimum Control Measure, are specifically required, as elucidated above, other monitoring tasks may be appropriate in a storm water program. Also, the RWQCB can require additional monitoring.

Termination of Coverage

A Permittee may terminate coverage if: a new operator has assumed responsibility for the regulated Small MS4; the Permittee has ceased operation of its MS4; or all discharge of runoff from the Small MS4 has been eliminated. To terminate coverage, the Permittee must submit to RWQCB a written request for permit termination.

Reliance on a SIE

A Permittee may rely on a separate entity to implement one or more of the six Minimum Control Measures, if the separate entity can appropriately and adequately address the storm water issues of the Permittee. To do this, both entities must agree to the arrangement, and the Permittee must comply with the applicable parts of the SIE's program. The arrangement is subject to the approval of the RWQCB Executive Officer.

In accordance with section 122.35(a)(3), the Permittee remains responsible for compliance with its permit obligations if SIE fails to implement the control measure(s) (or component thereof). Therefore, the entities are encouraged to enter into a legally binding agreement to minimize any uncertainty about compliance with the permit.

If the Permittee relies on an SIE to implement all six Minimum Control Measures and SIE also has a storm water permit, the Permittee relying on SIE must still submit an NOI, appropriate fee, proof that SIE's SWMP has been approved by RWQCB or its staff, and certification of the arrangement. However, the Permittee is not required to develop or submit a SWMP or annual reports, unless requested to do so by the RWQCB Executive Officer. The arrangement is subject to the approval of the RWQCB Executive Officer.

School districts present an example of where an SIE arrangement may be appropriate, either by forming an agreement with a city or with an umbrella agency, such as the County Office of Education. Because schools provide a large audience for storm water education, as part of the agreement, the two entities may coordinate an education program. An individual school or a school district may agree to provide a one-hour slot for all the second and fifth grade classes during which the city would bring in its own storm water presentation. Alternatively, the school could agree to teach a lesson in conjunction with an outdoor education science project, which may also incorporate a public involvement component. Additionally, the school and the city or Office of Education may arrange to have the school's maintenance staff attend the other entity's training sessions.

Retention of Records

The Permittee is required to retain records of all monitoring information and copies of all reports required by this General Permit for a period of at least five years from the date generated. This period may be extended by request of SWRCB or RWQCB.

Role of RWQCBs

RWQCBs and their staff will review and decide whether to approve SWMPs and, where requested, conduct public hearings on NOIs and SWMPs. Upon approval, they will notify Permittees that they have obtained permit coverage. They will also oversee implementation and compliance with this General Permit. As appropriate, they will review reports, require modification to SWMPs and other submissions, impose region-specific monitoring requirements, conduct inspections, take enforcement actions against violators of this General Permit, and make additional designations of regulated Small MS4s pursuant to this General Permit. They may also issue individual permits to regulated Small MS4s, and alternative general permits to categories of regulated Small MS4s. Upon issuance of such permits by an RWQCB, this General Permit shall no longer regulate the affected Small MS4s.

The Permittee and RWQCB are encouraged to work together to accomplish the goals of the storm water program. Specifically, they can coordinate the oversight of construction and industrial sites. For example, Permittees are required to implement a construction program. This program must include procedures for construction site inspection and enforcement. Construction sites disturbing an acre of land or more are also subject to inspections by RWQCB under the Statewide General Permit for Discharges of Storm Water Associated with Construction Activity. U.S. EPA intended to provide a structure that requires permitting through the federal CWA while at the same time achieving local oversight of construction projects. A structured plan review process and field enforcement at the local level, which is also required by this General Permit, were cited in the preamble to the Phase II regulations as the most effective components of a construction program.

Similarly, as part of the illicit discharge detection and elimination program, the Permittee may inspect facilities that are permitted by the Statewide General Permit for Discharges of Storm Water Associated with Industrial Activity and subject to RWQCB inspections.

The Small MS4 and RWQCB are encouraged to coordinate efforts and use each of their enforcement tools in the most effective manner. For instance, the Small MS4 may identify a construction site operator that is not in compliance with the local requirements and the Construction General Permit. The Small MS4 may establish a fee for re-inspection if a site is out of compliance. If education efforts and the inspection fee fail to bring the site into compliance, the Small MS4 may contact RWQCB and arrange a dual inspection and start enforcement procedures under the CWA if compliance is not achieved.

Relationship Between the Small MS4 Permit and the General Permit for Discharges of Storm Water Associated with Industrial Activity (Industrial Permit)

Some MS4 operators may also have facilities that are subject to the Industrial Permit. While the intent of both of these permits is to reduce pollutants in storm water, neither permit's requirements totally encompass the other. This General Permit requires that MS4 operators address six Minimum Control Measures, while the Industrial Permit requires the development and implementation of Storm Water Pollution Prevention Plans (SWPPP) for certain "industrial" activities as well as requiring specific visual and chemical monitoring. In the Preamble to the Phase II regulations, U.S. EPA notes that for a combination permit to be acceptable, it must contain all of the requirements for each permit. Further, "when viewed in its entirety, a

combination permit, which by necessity would need to contain all elements of otherwise separate industrial and MS4 permit requirements, and require NOI information for each separate industrial activity, may have few advantages when compared to obtaining separate MS4 and industrial general permit coverage.”

Where the permits do overlap, one program may reference the other. More specifically, the Good Housekeeping for Municipal Operations Minimum Control Measure requires evaluation of municipal operations, some of which may be covered under the Industrial Permit. The development and implementation of SWPPP under the Industrial Permit will likely satisfy the Good Housekeeping requirements for those industrial activities. SWMP may incorporate by reference the appropriate SWPPP.

There may be instances where a non-traditional MS4 has, under the Industrial Permit, obtained coverage for the entire facility (rather than only those areas where industrial activities occur) and has developed a SWPPP that addresses the six Minimum Control Measures required by this General Permit. In these instances, the non-traditional Small MS4 is not required to obtain coverage under this General Permit. The entity should, in such cases, provide to the appropriate RWQCB documentation that its SWPPP addresses the six Minimum Control Measures.

**STATE WATER RESOURCES CONTROL BOARD (SWRCB)
WATER QUALITY ORDER NO. 2003 - 0005 – DWQ**

**NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)
GENERAL PERMIT NO. CAS00000X**

**WASTE DISCHARGE REQUIREMENTS (WDRs)
FOR
STORM WATER DISCHARGES FROM SMALL MUNICIPAL SEPARATE STORM
SEWER SYSTEMS (MS4s) (GENERAL PERMIT)**

SWRCB finds that:

1. Urban runoff is a leading cause of pollution throughout California.
2. Pollutants of concern found in urban runoff include sediments, non-sediment solids, nutrients, pathogens, oxygen-demanding substances, petroleum hydrocarbons, heavy metals, floatables, polycyclic aromatic hydrocarbons (PAHs), trash, and pesticides and herbicides.
3. During urban development, two important changes occur. First, where no urban development has previously occurred, natural vegetated pervious ground cover is converted to impervious surfaces such as paved highways, streets, rooftops, and parking lots. Natural vegetated soil can both absorb rainwater and remove pollutants providing a very effective purification process. Because pavement and concrete can neither absorb water nor remove pollutants, the natural purification characteristics of the land are lost. Second, urban development creates new pollutant sources as human population density increases and brings with it proportionately higher levels of vehicle emissions, vehicle maintenance wastes, municipal sewage, pesticides, household hazardous wastes, pet wastes, trash, etc., which can be washed into the MS4. As a result of these two changes, the runoff leaving a developed urban area may be significantly greater in volume, velocity, and/or pollutant load than pre-development runoff from the same area.
4. A higher percentage of impervious area correlates to a greater pollutant loading, resulting in turbid water, nutrient enrichment, bacterial contamination, organic matter loads, toxic compounds, temperature increases, and increases of trash or debris.
5. Pollutants present in storm water can have damaging effects on both human health and aquatic ecosystems. In addition, the increased flows and volumes of storm water discharged from impervious surfaces resulting from development can significantly impact beneficial uses of aquatic ecosystems due to physical modifications of watercourses, such as bank erosion and widening of channels.

6. When water quality impacts are considered during the planning stages of a project, new development and many redevelopment projects can more efficiently incorporate measures to protect water quality.
7. On December 8, 1999, the U.S. Environmental Protection Agency (EPA) promulgated regulations under authority of the Clean Water Act (CWA) section 402(p)(6). These regulations require SWRCB to issue NPDES storm water permits to operators of small municipal separate storm sewer systems (Small MS4s) that discharge to waters of the U.S.
8. Of the Small MS4s defined by federal regulations, only “regulated Small MS4s” must obtain a permit. Title 40 of the Code of Federal Regulations (40 CFR) section 122.32(a) describes regulated Small MS4s as those traditional Small MS4s located within an urbanized area as determined by the latest Decennial Census by the Bureau of the Census and other Small MS4s that are designated by the permitting authority in accordance with designation criteria in Findings 10 and 11 below. Traditional Small MS4s within urbanized areas (Attachment 1) are automatically designated and are not subject to the designation criteria provided in Finding 10.
9. Section 123.35(b) of 40 CFR requires SWRCB to develop a process, as well as criteria, to designate Small MS4s as regulated Small MS4s.
10. In developing the designation criteria, factors were chosen to include parameters that may affect water quality. The following criteria will be considered in designating Small MS4s operated within a city or county as regulated Small MS4s.
 - a. High population density – High population density means an area with greater than 1,000 residents per square mile. Also to be considered in this definition is a high density created by a non-residential population, such as tourists or commuters.
 - b. High growth or growth potential – If an area grew by more than 25 percent between 1990 and 2000, it is a high growth area. If an area anticipates a growth rate of more than 25 percent over a 10-year period ending prior to the end of the first permit term, it has high growth potential.
 - c. Significant contributor of pollutants to an interconnected permitted MS4 – A Small MS4 is interconnected with a separately permitted MS4 if storm water that has entered the Small MS4 is allowed to flow directly into a permitted MS4. In general, if the Small MS4 discharges more than 10 percent of its storm water to the permitted MS4, or its discharge makes up more than 10 percent of the other permitted MS4’s total storm water volume, it is a significant contributor of pollutants to the permitted MS4. In specific cases, the MS4s involved or third parties may show that the 10 percent threshold is inappropriate for the MS4 in question.
 - d. Discharge to sensitive water bodies – Sensitive water bodies are receiving waters, which are a priority to protect. They include the following:

- those listed as providing or known to provide habitat for threatened or endangered species;
- those used for recreation that are subject to beach closings or health warnings; or
- those listed as impaired pursuant to CWA section 303(d) due to constituents of concern in urban runoff (these include biochemical oxygen demand (BOD), sediment, pathogens, oil and grease, and other constituents that are found in the MS4 discharge).

Additional criteria to qualify as a sensitive water body may exist and may be used by SWRCB or RWQCB on a case-by-case basis.

- e. Significant contributor of pollutants to waters of the United States (U.S.) – Specific conditions presented by the MS4 may lead to significant pollutant loading to waters of the U.S. that are otherwise unregulated or inadequately regulated. An example of such a condition may be the presence of a large transportation industry.

This General Permit serves as notice to those Small MS4s on Attachment 2 that they are designated as regulated Small MS4s by the SWRCB at the time of permit adoption.

11. Section 122.26(b)(16)(iii) of 40 CFR defines systems that are similar to separate storm sewer systems in cities and counties, such as systems at military bases, large hospital or prison complexes, and highways and other thoroughfares as Small MS4s. In this General Permit these types of Small MS4s are referred to as non-traditional MS4s that may be designated as regulated Small MS4s and required to seek coverage under this General Permit or coverage under a separate permit. Non-traditional MS4s often operate storm sewers that are similar to traditional MS4s operated by cities or counties and discharge the same types of pollutants that are typically associated with urban runoff.
12. This permit does not designate any non-traditional MS4s. SWRCB or RWQCB may designate non-traditional MS4s at any time subsequent to the adoption of this General Permit. Non-traditional MS4s that may be designated at a future date include, but are not limited to, those listed in Attachment 3 of this General Permit.
13. Non-traditional Small MS4 entities that are designated, but whose entire facilities are subject to the NPDES General Permit for the Discharge of Storm Water Associated with Industrial Activities and whose Storm Water Pollution Prevention Plan (SWPPP) addresses all six Minimum Control Measures described in this General Permit, are not required to obtain coverage under this General Permit. Such entities must present documentation to the appropriate RWQCB, showing that they meet the requirements for exclusion from coverage.
14. This General Permit requires regulated Small MS4s (Permittees) to develop a Storm Water Management Program (SWMP) designed to reduce the discharge of pollutants to the Maximum Extent Practicable (MEP) and to protect water quality. Upon approval of SWMP by the Regional Water Quality Control Board (RWQCB) or its Executive Officer,

the Permittees obtain coverage under this General Permit. This General Permit requires implementation of SWMP.

15. SWMP will be available for public review and comment and may be subject to a public hearing if requested prior to approval.
16. Permittees can satisfy the requirements through effective implementation of a SWMP, which must contain Best Management Practices (BMPs) that address six Minimum Control Measures. SWMP must incorporate measurable goals and time schedules of implementation.
17. The MEP standard is an ever-evolving, flexible, and advancing concept, which considers technical and economic feasibility. As knowledge about controlling urban runoff continues to evolve, so does that which constitutes MEP. Reducing the discharge of storm water pollutants to MEP in order to protect beneficial uses requires review and improvement, which includes seeking new opportunities. To do this, the Permittee must conduct and document evaluation and assessment of each relevant element of its program and revise activities, control measures, BMPs, and measurable goals, as necessary to meet MEP.
18. This General Permit includes Supplemental Provisions that apply to traditional and non-traditional Small MS4s serving a population of 50,000 people or more, or that are subject to high growth. These requirements address post-construction requirements and compliance with water quality standards. These Supplemental Provisions are similar to requirements for Medium and Large MS4s (Phase I), and are appropriate because larger Small MS4s are able to have more robust storm water programs and fast-growing Small MS4s may cause greater impacts to water quality.
19. The Receiving Water Limitations language contained in Attachment 4 is identical to the language established in SWRCB Water Quality Order WQ-99-05 adopted by the SWRCB on June 17, 1999. As interpreted in SWRCB Water Quality Order WQ-2001-15, adopted by the SWRCB on November 15, 2001, the receiving water limitations in this General Permit do not require strict compliance with water quality standards, but instead require compliance with water quality standards over time, through an iterative approach requiring improved BMPs.
20. The post-construction requirements, or Design Standards, contained in Attachment 4 are consistent with Order WQ-2000-11 adopted by SWRCB on October 5, 2000.
21. The purpose of the annual performance review is to evaluate (1) SWMP's effectiveness; (2) the implementation of SWMP (3) status of measurable goals; (4) effectiveness of BMPs; and (5) improvement opportunities to achieve MEP.
22. To apply for permit coverage authorizing storm water discharges to surface waters pursuant to this General Permit, the Permittees must submit a complete application package to the appropriate RWQCB. An application package includes a Notice of Intent

(NOI) to comply with the terms of this General Permit, appropriate fee (in accordance with the most recent fee schedule¹), and SWMP. Permittees relying entirely on separately permitted Separate Implementing Entities (SIEs) to implement their entire programs are not required to submit a SWMP if the SIE being relied on has an approved SWMP. Attachment 8 gives contact information for each RWQCB.

23. Upon receipt of a complete permit application, the application will be public noticed for thirty days on SWRCB's website. During the public notice period, a member of the public may request that a public hearing be conducted by RWQCB. If no public hearing is requested, the application may be approved by the RWQCB Executive Officer. Permittees obtain coverage under the General Permit only after the SWMP has been approved.
24. Each Permittee is individually responsible for adoption and enforcement of ordinances and/or policies, implementation of identified control measures/BMPs needed to prevent or reduce pollutants in storm water, and for allocation of funds for the capital, operation and maintenance, and enforcement expenditures necessary to implement and enforce such control measures/BMPs within its jurisdiction. Enforcement actions concerning this General Permit will be pursued only against the individual Permittee responsible for specific violations of this General Permit.
25. In accordance with 40 CFR section 122.28(b)(3), a RWQCB may issue an individual MS4 NPDES Permit to a Permittee otherwise subject to this General Permit, or adopt an alternative general permit that covers storm water discharges regulated by this General Permit. The applicability of this General Permit is automatically terminated on the effective date of the individual permit or the date of approval for coverage under the alternative general permit.
26. Certain BMPs implemented or required by Permittees for urban runoff management may create a habitat for vectors (e.g., mosquitoes and rodents) if not properly designed or maintained. Close collaboration and cooperative effort between the Permittees, local vector control agencies, RWQCB staff, and the State Department of Health Services is necessary to identify and implement appropriate vector control measures that minimize potential nuisances and public health impacts resulting from vector breeding.
27. This General Permit may be reopened and modified if the decision in *Environmental Defense Center v. EPA* is revised or vacated.
28. This NPDES Permit is consistent with the antidegradation policies of 40 CFR section 131.12, SWRCB Resolution 68-16, and RWQCBs' individual Basin Plans. Implementing storm water quality programs that address the six Minimum Control Measures in previously unregulated areas will decrease the pollutant loading to the receiving waters and improve water quality.

¹ California Code of Regulations. Title 23. Division 3. Chapter 9 Waste Discharge Reports and Requirements. Article 1 Fees.

29. Following public notice in accordance with State and federal laws and regulations, SWRCB, in public hearings on December 2, 2002 and April 30, 2003, heard and considered all comments. SWRCB has prepared written responses to all significant comments.
30. This action to adopt an NPDES Permit is exempt from the provisions of the California Environmental Quality Act (Public Resources Code § 21100, et seq.) in accordance with section 13389 of the Porter-Cologne Water Quality Control Act (Porter-Cologne) (Division 7 of the California Water Code).
31. This NPDES Permit is in compliance with Part 402 of CWA and shall take effect 100 days after adoption by SWRCB. Once in effect, RWQCBs shall enforce the provisions herein.

IT IS HEREBY ORDERED that operators of Small MS4s subject to this General Permit shall comply with the following:

A. APPLICATION REQUIREMENTS

1. Deadlines for Application

- a. By August 8, 2003, all Permittees automatically designated (see Attachment 1) must either apply for coverage under this General Permit (either individually or as a co-permittee), submit an application for an individual or alternative general Small MS4 permit (if applicable), or submit a joint application for modification of an existing large or medium MS4 permit (40 CFR §122.33(c)(1)).

Permittees that submitted complete application packages prior to the adoption of this General Permit to meet the federal regulation March 10, 2003 deadline have complied with this requirement and are not required to submit a duplicate application package.

- b. By October 27, 2003, traditional Small MS4s designated according to Finding 10 (see Attachment 2), must either apply for coverage under this General Permit (either individually or as a co-permittee), submit an application for an individual or alternative general Small MS4 permit, or submit a joint application for modification of an existing large or medium MS4 permit (40 CFR §122.33(c)(2)). Written notices will be sent to designated parties subsequent to adoption of this General Permit.
- c. Non-traditional Small MS4s, or other Small MS4s, which are designated by RWQCB or SWRCB after adoption of this General Permit must apply for coverage under this General Permit (either individually or as a co-

permittee), submit a complete application for an individual or alternative general Small MS4 permit, or submit a joint application for modification of an existing large or medium MS4 permit (40 CFR §122.33(c)(2)). Applications must be submitted within 180 days of designation unless a later date is provided in the designation letter.

2. General Permit Application

To obtain coverage under this General Permit, submit to the appropriate RWQCB a completed NOI (Attachment 7), a complete SWMP (one hard copy and one electronic copy in Word or PDF format), and appropriate fee. SWMP shall meet all the requirements of Section D of this General Permit. Permittees relying entirely on SIEs pursuant to Provision D.6 and permitted under the NPDES program are not required to submit a SWMP.

3. General Permit Coverage

Permit coverage will be in effect upon the completion of the following:

- a. The Permittee has submitted a complete permit application to the appropriate RWQCB,
- b. Receipt of a complete application is noticed for a minimum of 60 days and copies provided to the public for review and comment upon request,
- c. The proposed SWMP has been reviewed by RWQCB staff, and
- d. SWMP has been approved by the RWQCB Executive Officer, or approved by RWQCB in a public hearing, if requested.

B. DISCHARGE PROHIBITIONS

1. Discharges of waste that are prohibited by Statewide Water Quality Control Plans or applicable Regional Water Quality Control Plans (Basin Plans) are prohibited.
2. Discharges from the MS4s regulated under this General Permit that cause or threaten to cause nuisance are prohibited.
3. Discharges of material other than storm water to waters of the U.S. or another permitted MS4 must be effectively prohibited, except as allowed under Provision D.2.c, or as otherwise authorized by a separate NPDES permit.

C. EFFLUENT LIMITATIONS

1. Permittees must implement BMPs that reduce pollutants in storm water to the technology-based standard of MEP.
2. Storm water discharges regulated by this General Permit shall not contain a hazardous substance in amounts equal to or in excess of a reportable quantity listed in 40 CFR Part 117 or 40 CFR Part 302.

D. STORM WATER MANAGEMENT PROGRAM REQUIREMENTS

The Permittee shall maintain, implement, and enforce an effective SWMP, and develop adequate legal authority to implement and enforce the SWMP, designed to reduce the discharge of pollutants from the permitted MS4 to MEP and to protect water quality. SWMP shall serve as the framework for identification, assignment, and implementation of control measures/BMPs. The Permittee shall implement SWMP and shall subsequently demonstrate its effectiveness and provide for necessary and appropriate revisions, modifications, and improvements to reduce pollutants in storm water discharges to the MEP. SWMP shall be fully implemented by the expiration of this General Permit, or within five years of designation for Small MS4s designated subsequent to Permit adoption, with reasonable progress made towards implementation throughout the term of the General Permit. Existing programs that have storm water quality benefits can be identified in the SWMP and be a part of a Permittee's storm water program.

SWMP shall be revised to incorporate any new or modified BMPs or measurable goals developed through the Permittee's annual reporting process. The Permittee shall incorporate changes required by or acceptable to the RWQCB Executive Officer into applicable annual revisions to SWMP and adhere to its implementation.

1. The Permittee shall maintain, implement, and enforce an effective SWMP designed to reduce the discharge of pollutants from the regulated Small MS4 to the MEP and to protect water quality.
2. SWMP must describe BMPs, and associated measurable goals, that will fulfill the requirements of the following six Minimum Control Measures.
 - a. **Public Education and Outreach on Storm Water Impacts**
The Permittee must implement a public education program to distribute educational materials to the community or conduct equivalent outreach activities about the impacts of storm water discharges on water bodies and the steps that the public can take to reduce pollutants in storm water runoff. For non-traditional Permittees, the employee/user population may serve as "the public" to target for outreach and involvement.

Non-traditional Small MS4s that discharge into medium and large MS4 may integrate public education and outreach program with the existing MS4 public education and outreach programs.

b. **Public Involvement/Participation**

The Permittee must at a minimum comply with State and local public notice requirements when implementing a public involvement/participation program.

c. **Illicit Discharge Detection and Elimination**

The Permittee must:

- 1) Develop, implement, and enforce a program to detect and eliminate illicit discharges (as defined at 40 CFR §122.26(b)(2)) into the regulated Small MS4;
- 2) Develop, if not already completed, a storm sewer system map, showing the location of all outfalls and the names and locations of all waters of the U.S. that receive discharges from those outfalls;
- 3) To the extent allowable under State or local law, effectively prohibit, through ordinance, or other regulatory mechanism, non-storm water discharges into the MS4 and implement appropriate enforcement procedures and actions;
- 4) Develop and implement a plan to detect and address non-storm water discharges, including illegal dumping, to the system that are not authorized by a separate NPDES permit;
- 5) Inform public employees, businesses, and the general public of the hazards that are generally associated with illegal discharges and improper disposal of waste; and
- 6) Address the following categories of non-storm water discharges or flows (i.e., authorized non-storm water discharges) only where they are identified as significant contributors of pollutants to the Small MS4:

1. water line flushing;
2. landscape irrigation;
3. diverted stream flows;
4. rising ground waters;
5. uncontaminated ground water infiltration (as defined at 40 CFR §35.2005(20)) to separate storm sewers;
6. uncontaminated pumped ground water;
7. discharges from potable water sources;
8. foundation drains;
9. air conditioning condensation;
10. irrigation water;
11. springs;
12. water from crawl space pumps;
13. footing drains;
14. lawn watering;
15. individual residential car washing;
16. flows from riparian habitats and wetlands; and
17. dechlorinated swimming pool discharges.

Discharges or flows from fire fighting activities are excluded from the effective prohibition against non-storm water and need only be addressed where they are identified as significant sources of pollutants to waters of the U.S.

If a RWQCB Executive Officer determines that any individual or class of non-storm water discharge(s) listed above may be a significant source of pollutants to waters of the U.S. or physically interconnected MS4, or poses a threat to water quality standards (beneficial uses), the RWQCB Executive Officer may require the appropriate Permittee(s) to monitor and submit a report and to implement BMPs on the discharge.

d. **Construction Site Storm Water Runoff Control**

The Permittee must develop, implement, and enforce a program to reduce pollutants in any storm water runoff to the Small MS4 from construction activities that result in a land disturbance of greater than or equal to one acre. Reduction of storm water discharges from construction activity disturbing less than one acre must be included in your program if that construction activity is part of a larger common plan of development or sale that would disturb one acre or more. The program must include the development and implementation of, at a minimum:

- 1) An ordinance or other regulatory mechanism to require erosion and sediment controls, as well as sanctions, or other effective mechanisms, to ensure compliance, to the extent allowable under State, or local law;

- 2) Requirements for construction site operators to implement appropriate erosion and sediment control BMPs;
- 3) Requirements for construction site operators to control waste such as discarded building materials, concrete truck washout, chemicals, litter, and sanitary waste at the construction site that may cause adverse impacts to water quality;
- 4) Procedures for site plan review which incorporate consideration of potential water quality impacts;
- 5) Procedures for receipt and consideration of information submitted by the public; and
- 6) Procedures for site inspection and enforcement of control measures.

e. **Post-Construction Storm Water Management in New Development and Redevelopment**

The Permittee must:

- 1) Develop, implement, and enforce a program to address storm water runoff from new development and redevelopment projects that disturb greater than or equal to one acre, including projects less than one acre that are part of a larger common plan of development or sale, that discharge into the Small MS4 by ensuring that controls are in place that would prevent or minimize water quality impacts;
- 2) Develop and implement strategies, which include a combination of structural and/or non-structural BMPs appropriate for your community;
- 3) Use an ordinance or other regulatory mechanism to address post-construction runoff from new development and redevelopment projects to the extent allowable under State or local law. For those Small MS4s described in Supplemental Provision E below, the requirements must at least include the design standards contained in Attachment 4 of this General Permit or a functionally equivalent program that is acceptable to the appropriate RWQCB; and
- 4) Ensure adequate long-term operation and maintenance of BMPs.

The General Permit does not require redesign of K-12 school or community college facilities that have been submitted to the Department of General Services, Division of the State Architect before adoption of the permit, and which receive final approval from the State Allocation Board or the Public Works Board, as appropriate, on or before December 31, 2004.

f. **Pollution Prevention/Good Housekeeping for Municipal Operations**

The Permittee must:

- 1) Develop and implement an operation and maintenance program that includes a training component and has the ultimate goal of preventing or reducing pollutant runoff from municipal operations; and
 - 2) Using training materials that are available from U.S. EPA, the State, or other organizations, the program must include employee training to prevent and reduce storm water pollution from activities such as park and open space maintenance, fleet building maintenance, new construction and land disturbances, and storm water system maintenance.
3. SWMP must identify the measurable goals for each of the BMPs, including, as appropriate, the months and years for scheduled actions, including interim milestones and the frequency of the action.
 4. SWMP must identify the person or persons who will implement or coordinate SWMP, as well as each Minimum Control Measure.
 5. Termination of coverage

A Permittee may terminate coverage if a new operator has assumed responsibility for the MS4, the Permittee has ceased operation of the MS4, or the Permittees has eliminated discharges from the MS4. To terminate coverage, the Permittee must submit a written request to the RWQCB.

6. Reliance on a SIE

The Permittee may rely on a SIE to satisfy one or more of the permit obligations, if the separate entity can appropriately and adequately address the storm water issues of the Permittee. The Permittee must describe the arrangement in the SWMP and the arrangement is subject to the approval of the RWQCB Executive Officer. The other entity must agree to implement the control measure(s), or components thereof, to achieve compliance with the General Permit. The Permittee remains responsible for compliance with this General Permit if the SIE fails to implement the control measure(s).

If the Permittee relies on an SIE to implement all six Minimum Control Measures and the SIE also has a storm water permit issued by SWRCB or RWQCB, the Permittee relying on the SIE must still submit an NOI, appropriate fee, and certification of the arrangement. The Permittee must note this fact in the NOI and provide proof that the SIE has an approved SWMP, but is not required to maintain a SWMP nor submit annual reports.

7. Outfalls not identified in the storm sewer system map required by Provision D.2.c.2), but constructed within the permitted area during the term of this General Permit to receiving waters identified in the NOI, shall not be considered a material change in character, location, or volume of the permitted discharge, and shall be allowed under the terms of this General Permit without permit application or permit modification, provided that the following information be provided in the subsequent annual report:
 - a. Receiving water name;
 - b. Storm sewer system map of added area;
 - c. Certification that SWMP shall be amended to include the drainage area.

E. SUPPLEMENTAL PROVISIONS

Those regulated traditional and non-traditional Small MS4s serving a population over 50,000 or that are subject to high growth (at least 25 percent over ten years) must comply with the requirements in Attachment 4 of this General Permit. Compliance is required upon full implementation of the Small MS4s' storm water management plan.

Attachment 5 provides a list of communities that SWRCB anticipates being subject to the provisions in Attachment 4.

F. REPORTING REQUIREMENTS AND MONITORING

1. Reporting

The Permittee must submit annual reports to the appropriate RWQCB by September 15th of each year (for Small MS4s designated with the adoption of this permit, the first annual report is to be submitted in 2004), or as otherwise required by the RWQCB Executive Officer, unless exempted under Provision D.6. The report shall summarize the activities performed throughout the reporting period (July 1 through June 30) and must include:

- a. The status of compliance with permit conditions;
- b. An assessment of the appropriateness and effectiveness of the identified BMPs;
- c. Status of the identified measurable goals;
- d. Results of information collected and analyzed, including monitoring data, if any, during the reporting period;

- e. A summary of the storm water activities the Permittee plans to undertake during the next reporting cycle;
 - f. Any proposed change(s) to SWMP along with a justification of why the change(s) are necessary; and
 - g. A change in the person or persons implementing and coordinating SWMP.
2. RWQCB may impose additional monitoring requirements, which may include a reporting component. RWQCBs may adopt such requirements on an individual or group basis.
 3. Recordkeeping

The Permittee must keep records required by this General Permit for at least five years or the duration of the General Permit if continued. The RWQCB Executive Officer may specify a longer time for record retention. The Permittee must submit the records to the RWQCB Executive Officer upon request. The Permittee must make the records, including the permit and SWMP, available to the public during regular business hours.

G. RWQCB AUTHORITIES

RWQCBs will review and approve SWMPs prior to permit coverage being in effect and will conduct public hearings of individual permit applications upon request. Where there is no hearing, the Executive Officer may approve the SWMP. RWQCBs will also oversee compliance with this General Permit. Oversight may include, but is not limited to, reviewing reports, requiring modification to SWMPs and other submissions, imposing region-specific monitoring requirements, conducting inspections, taking enforcement actions against violators of this General Permit, and making additional designations of Permittees pursuant with the criteria described in this General Permit and Fact Sheet. The RWQCBs may also issue individual permits to regulated Small MS4s, and alternative general permits to categories of regulated Small MS4s. Upon issuance of such permits by an RWQCB, this General Permit shall no longer regulate the affected Small MS4(s).

H. STANDARD PROVISIONS

1. General Authority

Three of the minimum control measures (illicit discharge detection and elimination, and the two construction-related measures) require enforceable controls on third party activities to ensure successful implementation of the measure. Some non-traditional operators, however, may not have the necessary legal regulatory authority to adopt these enforceable controls. As in the case of

local governments that lack such authority, non-traditional MS4s are expected to utilize the authority they do possess and to seek cooperative arrangements.

2. Duty to Comply

The Permittee must comply with all of the conditions of this General Permit. Any permit noncompliance constitutes a violation of CWA and the Porter-Cologne and is grounds for enforcement action and/or removal from General Permit coverage. In the event that the Permittee is removed from coverage under the General Permit, the Permittee will be required to seek coverage under an individual or alternative general permit.

3. General Permit Actions

This General Permit may be modified, revoked and reissued, or terminated for cause. The filing of a request by the Permittee for a General Permit modification, revocation and reissuance, or termination, or a notification of planned changes or anticipated noncompliance does not nullify any General Permit condition.

If any toxic effluent standard or prohibition (including any schedule of compliance specified in such effluent standard or prohibition) is promulgated under section 307(a) of CWA for a toxic pollutant which is present in the discharge and that standard or prohibition is more stringent than any limitation on the pollutant in this General Permit, this General Permit shall be modified or revoked and reissued to conform to the toxic effluent standard or prohibition and Permittee so notified.

4. Noncompliance Reporting

Permittees who cannot certify compliance and/or who have had other instances of noncompliance shall notify the appropriate RWQCB within 30 days. Instances of noncompliance resulting in emergencies (i.e., that endanger human health or the environment) shall be reported orally to the RWQCB within 24 hours from the time the discharger becomes aware of the circumstance and in writing to the RWQCB within five days of the occurrence. The notification shall identify the noncompliance event and an initial assessment of any impact caused by the event, describe the actions necessary to achieve compliance, and include a time schedule indicating when compliance will be achieved. The time schedule and corrective measures are subject to modification by the RWQCB Executive Officer.

5. Need to Halt or Reduce Activity Not a Defense

It shall not be a defense for the Permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this General Permit.

6. Duty to Mitigate

The Permittee shall take all responsible steps to minimize or prevent any discharge in violation of this General Permit that has a reasonable likelihood of adversely affecting human health or the environment.

7. Proper Operation and Maintenance

The Permittee shall at all times properly operate and maintain any facilities and systems of treatment and control (and related appurtenances) which are installed or used by the Permittee to achieve compliance with the conditions of this General Permit and with the requirements of SWMP. Proper operation and maintenance also includes adequate laboratory controls and appropriate quality assurance procedures. Proper operation and maintenance may require the operation of backup or auxiliary facilities or similar systems installed by the Permittee when necessary to achieve compliance with the conditions of this General Permit.

8. Property Rights

This General Permit does not convey any property rights of any sort or any exclusive privileges, nor does it authorize any injury to private property or any invasion of personal rights, nor does it authorize any infringement of federal, State, or local laws or regulations.

9. Duty to Provide Information

The Permittee shall furnish RWQCB, SWRCB, or U.S. EPA, during normal business hours, any requested information to determine compliance with this General Permit. The Permittee shall also furnish, upon request, copies of records required to be kept by this General Permit.

10. Inspection and Entry

The Permittee shall allow RWQCB, SWRCB, U.S. EPA, or an authorized representative of RWQCB, SWRCB, or U.S. EPA, upon the presentation of credentials and other documents as may be required by law, to:

- a. Enter upon the Permittee's premises during normal business hours where a regulated facility or activity is located or conducted, or where records must be kept under the conditions of this General Permit;
- b. Access and copy, during normal business hours, any records that must be kept under the conditions of this General Permit within a reasonable time from notification;

- c. Inspect during normal business hours any municipal facilities; and
- d. Sample or monitor at reasonable times for the purpose of assuring General Permit compliance.

11. Signatory Requirements

All NOIs, SWMPs, certifications, reports, or other information prepared in accordance with this General Permit submitted to SWRCB or RWQCB shall be signed by either a principal executive officer, ranking elected official, or duly authorized representative. The principal executive officer of a Federal agency includes the chief executive officer of the agency or the senior executive officer having responsibility for the overall operations of a principal geographic unit of the agency (e.g., Regional Administrator of U.S. EPA).

12. Certification

Any person signing documents under Section H.11 above shall make the following certification:

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system or those persons directly responsible for gathering the information, to the best of my knowledge and belief, the information submitted is true, accurate, and complete.

I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

13. Anticipated Noncompliance

The Permittee will give advance notice to the RWQCB and local storm water management agency of any planned changes in the regulated Small MS4 activity that may result in noncompliance with General Permit requirements.

14. Penalties for Falsification of Reports

Section 309(c)(4) of CWA provides that any person who knowingly makes any false material statement, representation, or certification in any record or other document submitted or required to be maintained under this General Permit, including reports of compliance or noncompliance, shall upon conviction, be punished by a fine of not more than \$10,000 or by imprisonment for not more than two years or by both.

15. Penalties for Violations of Permit Conditions

- a. Part 309 of CWA provides significant penalties for any person who violates a permit condition implementing Parts 301, 302, 306, 307, 308, 318, or 405 of CWA or any permit condition or limitation implementing any such section in a permit issued under Part 402. Any person who violates any permit condition of this General Permit is subject to a civil penalty not to exceed \$27,500 per calendar day of such violation, as well as any other appropriate sanction provided by Part 309 of CWA.
- b. Porter-Cologne also provides for administrative, civil, and criminal penalties, which in some cases are greater than those under CWA.

16. Oil and Hazardous Substance Liability

Nothing in this General Permit shall be construed to preclude the institution of any legal action against the Permittee or relieve the Permittee from any responsibilities, liabilities, or penalties to which the Permittee is or may be subject to under Part 311 of CWA.

17. Severability

The provisions of this General Permit are severable; and, if any provision of this General Permit or the application of any provision of this General Permit to any circumstance is held invalid, the application of such provision to other circumstances and the remainder of this General Permit shall not be affected thereby.

18. Reopener Clause

This General Permit may be modified, revoked and reissued, or terminated for cause due to promulgation of amended regulations, or otherwise in accordance with 40 CFR sections 122.62, 122.63, 122.64, and 124.5.

19. Availability

A copy of this General Permit and SWMP shall be made available for public review.

20. Transfers

This General Permit is not transferable. A Permittee must submit written notification to the appropriate RWQCB to terminate coverage of this General Permit.

21. Continuation of Expired Permit

This General Permit expires five years from the date of adoption. This General Permit continues in force and in effect until a new General Permit is issued or the SWRCB rescinds this General Permit. Only those Small MS4s authorized to discharge under the expiring General Permit are covered by the continued General Permit.

CERTIFICATION

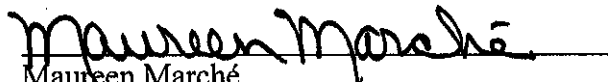
The undersigned, Clerk to the Board, does hereby certify that the foregoing is a full, true, and correct copy of an order duly and regularly adopted at a meeting of SWRCB held on April 30, 2003.

AYE: Arthur G. Baggett, Jr.
Peter S. Silva
Richard Katz
Gary M. Carlton

NO: None

ABSENT: None

ABSTAIN: None


Maureen Marché
Clerk to the Board

Operators of Municipal Separate Storm Sewer Systems that serve areas within urbanized areas are automatically designated as regulated Small MS4s. These include the following areas. (For cities, the permit area boundary is the city boundary. For counties, permit boundaries must at least be inclusive of urbanized areas. The boundaries must be proposed in the permit application and may be developed in conjunction with the applicable regional water quality control board.)

Region 1

City of Cotati
Graton, County of Sonoma
City of Healdsburg
City of Rohnert Park
City of Sebastapool
Town of Windsor
County of Sonoma

Region 2

City of Belvedere
City of Benicia
Black Point-Green Point, County of Marin
Town of Corte Madera
Town of Fairfax
City of Larkspur
Lucas Valley-Marinwood, County of Marin
City of Mill Valley
City of Napa
City of Novato
City of Petaluma
Town of Ross
Town of San Anselmo
City of San Francisco (those areas not served by a CSO)
City of San Rafael
City of Sausalito
City of Tamalpais-Homestead Valley
City of Tiburon
Woodacre, County of Marin
County of Napa
County of Marin
County of Solano
County of Sonoma
County of San Francisco (those areas not served by a CSO)

Region 3

Aptos, County of Santa Cruz
City of Atascadero
Ben Lomand, County of Santa Cruz
Boulder Creek, County of Santa Cruz

City of Capitola
City of Carmel-by-the-Sea
Carmel Valley Village, County of Monterey
City of Carpinteria
Castroville, County of Monterey
Coralitos, County of Santa Cruz
City of Del Ray Oaks
Felton, County of Santa Cruz
City of Gilroy
Goleta, County of Santa Barbara
Isla Vista, County of Santa Barbara
Las Lomas, County of Santa Cruz
Live Oak, County of Santa Cruz
City of Lompoc
City of Marina
Montecito, County of Santa Barbara
City of Monterey
City of Morgan Hill
Nipomo, County of San Luis Obispo
Orcutt, County of Santa Barbara
City of Pacific Grove
Pajaro, County of Monterey
City of Paso Robles
Pebble Beach, County of Monterey
Prunedale, Count of Monterey
City of San Luis Obispo
City of Sand City
San Martin, County of Santa Clara
City of Santa Barbara
City of Santa Cruz
City of Santa Maria
City of Scotts Valley
City of Seaside
Soquel, County of Santa Cruz
Summerland, County of Santa Cruz
City of Watsonville
Templeton, County of San Luis Obispo
Vandenberg Village, County of Santa Barbara
County of Monterey
County of San Luis Obispo
County of Santa Barbara
County of Santa Clara
County of Santa Cruz

Region 5

City of Anderson
City of Atwater
City of Auburn

Bondelle Ranchos, County of Madera
City of Ceres
City of Chico
City of Davis
City of Delhi
El Dorado Hills, County of El Dorado
Empire, County of Stanislaus
City of Exeter
City of Farmersville
French Camp, County of San Joaquin
Goshen, County of Tulare
Granite Bay, County of Placer
City of Hughson
Kennedy, County of San Joaquin
Keyes, County of Stanislaus
City of Lathrop
Linda, County of Yuba
City of Lodi
Town of Loomis
City of Madera
Madera Acres, County of Madera
City of Manteca
City of Marysville
City of Merced
Morada, County of San Joaquin
North Auburn, County of Placer
North Woodbridge, County of San Joaquin
Olivehurst, County of Yuba
City of Porterville
City of Redding
City of Ripon
City of Riverbank
City of Rocklin
City of Roseville
Salida, County of Stanislaus
City of Shasta Lake
Strathmore, County of Tulare
South Yuba City, County of Sutter
City of Tracy
City of Turlock
City of Vacaville
City of Visalia
City of West Sacramento
City of Winton
City of Yuba City
County of Butte
County of Madera
County of Merced

County of Placer
County of San Joaquin
County of Shasta
County of Solano
County of Stanislaus
County of Sutter
County of Tulare
County of Yolo
County of Yuba

Region 6

City of Apple Valley
City of Hesperia
City of Lancaster
City of Palmdale
City of Victorville
County of San Bernadino
County of Los Angeles

Region 7

City of El Centro
Heber, County of Imperial
City of Imperial
County of Imperial

Operators of Municipal Separate Storm Sewer Systems that serve areas that are designated by the State Water Resources Control Board or Regional Water Quality Control Board in accordance with the designation criteria contained in the General Permit are regulated Small MS4s. These include, but are not limited to, the following areas. (For cities, the permit area boundary is the city boundary. For counties, permit boundaries must at least be inclusive of urbanized areas. The boundaries must be proposed in the permit application and may be developed in conjunction with the applicable regional water quality control board.)

Region 1

Area	Justification	Details
City of Arcata	<ul style="list-style-type: none"> • Discharge Into A Sensitive Water Body • High Population Density 	<ul style="list-style-type: none"> • Mad River which is on the 303(d) list for sediment/turbidity • Urban cluster
City of Eureka	<ul style="list-style-type: none"> • Discharge Into A Sensitive Water Body • High Population Density 	<ul style="list-style-type: none"> • Elk River and Freshwater Creek which are listed on the 303(d) list for sedimentation/siltation • Urban cluster
City of Fort Bragg	<ul style="list-style-type: none"> • Discharge Into A Sensitive Water Body • High Population Density 	<ul style="list-style-type: none"> • Noyo River which is listed for sedimentation/siltation • Urban cluster
City of Fortuna	<ul style="list-style-type: none"> • Discharge Into A Sensitive Water Body • High Population Density 	<ul style="list-style-type: none"> • Eel River which is on the 303(d) list for sedimentation/siltation and temperature • Urban cluster
McKinleyville, County of Humboldt	<ul style="list-style-type: none"> • Discharge Into A Sensitive Water Body • High Population Density 	<ul style="list-style-type: none"> • Mad River which is on the 303(d) list for sedimentation/siltation and turbidity • Urban cluster
City of Ukiah	<ul style="list-style-type: none"> • Discharge Into A Sensitive Water Body • High Population Density 	<ul style="list-style-type: none"> • Russian River which is listed for sedimentation/siltation • Urban cluster
County of Mendocino	<ul style="list-style-type: none"> • Discharge Into A Sensitive Water Body • High Population Density 	<ul style="list-style-type: none"> • Russian River which is listed for sedimentation/siltation • Urban cluster •

Region 2

Area	Justification	Details
City of Calistoga	<ul style="list-style-type: none"> • Discharge Into A Sensitive Water Body • High Population Density 	<ul style="list-style-type: none"> • Napa River, which is on the 303(d) list for sediment, nutrients, and pathogens • Urban cluster
City of St. Helena	<ul style="list-style-type: none"> • Discharge Into A Sensitive Water Body • High Population Density 	<ul style="list-style-type: none"> • Napa River, which is on the 303(d) list for sediment, nutrients, and pathogens • Urban cluster
City of Sonoma	<ul style="list-style-type: none"> • Discharge Into A Sensitive Water Body • High Population Density 	<ul style="list-style-type: none"> • Sonoma Creek, which is on the 303(d) list for sediment, nutrients, and pathogens • Urban cluster
Town of Yountville	<ul style="list-style-type: none"> • Discharge Into A Sensitive Water Body • High Population Density 	<ul style="list-style-type: none"> • Napa River, which is on the 303(d) list for sediment, nutrients, and pathogens • Urban cluster

Region 3

Area	Justification	Details
City of Arroyo Grande	<ul style="list-style-type: none"> • High Population Density 	<ul style="list-style-type: none"> • Tourism, Urban cluster
Baywood-Los Osos, County of San Luis Obispo	<ul style="list-style-type: none"> • Discharge Into A Sensitive Water Body • High Population Density 	<ul style="list-style-type: none"> • Morro Bay which is on the 303(d) list for sediments • Urban cluster
City of Buellton	<ul style="list-style-type: none"> • Discharge Into A Sensitive Water Body • High Population Density 	<ul style="list-style-type: none"> • Santa Ynez River, which is on the 303(d) list for nutrients and sediment • Urban cluster
Cambria, County of San Luis Obispo	<ul style="list-style-type: none"> • Discharge Into A Sensitive Water Body • High Population Density 	<ul style="list-style-type: none"> • Marine Sanctuary • Urban cluster
City of Greenfield	<ul style="list-style-type: none"> • Discharge Into A Sensitive Water Body • High Growth Rate • High Population Density 	<ul style="list-style-type: none"> • Salinas River, which is listed for sediment and salinity/TDS/chlorides • 68.6% over 10 years • Urban cluster
City of Grover Beach	<ul style="list-style-type: none"> • High Population Density 	<ul style="list-style-type: none"> • Tourism, Urban cluster
City of Hollister	<ul style="list-style-type: none"> • Discharge Into A Sensitive Water Body • High Growth Rate • High Population Density 	<ul style="list-style-type: none"> • San Benito River, which is listed for sediment • 79.1% over 10 years • Urban cluster
City of King City	<ul style="list-style-type: none"> • Discharge Into A Sensitive 	<ul style="list-style-type: none"> • Salinas River, which is listed

	<ul style="list-style-type: none"> Water Body High Growth Rate High Population Density 	<ul style="list-style-type: none"> for sediment and salinity/TDS/chlorides 45.3% over 10 years Urban cluster
	<ul style="list-style-type: none"> 	<ul style="list-style-type: none">
Los Olivos, County of Santa Barbara	<ul style="list-style-type: none"> Discharge Into A Sensitive Water Body High Population Density 	<ul style="list-style-type: none"> Santa Ynez River, which is on the 303(d) list for nutrients and sediment Urban Cluster
City of Morro Bay	<ul style="list-style-type: none"> Discharge Into A Sensitive Water Body High Population Density 	<ul style="list-style-type: none"> Morro Bay, which is on the 303(d) list for sediments Urban cluster
Oceano, County of San Luis Obispo	<ul style="list-style-type: none"> High Population Density 	<ul style="list-style-type: none"> Tourism, Urban cluster
City of Pismo Beach	<ul style="list-style-type: none"> High Population Density 	<ul style="list-style-type: none"> Tourism, Urban cluster
Santa Ynez, County of Santa Barbara	<ul style="list-style-type: none"> Discharge Into A Sensitive Water Body High Population Density 	<ul style="list-style-type: none"> Santa Ynez River, which is on the 303(d) list for nutrients and sediment Urban cluster
Shell Beach, County of San Luis Obispo	<ul style="list-style-type: none"> High Population Density 	<ul style="list-style-type: none"> Tourism
City of Soledad	<ul style="list-style-type: none"> Discharge Into A Sensitive Water Body High Growth Rate High Population Density 	<ul style="list-style-type: none"> Salinas River, which is listed for sediment and salinity/TDS/chlorides 57.6% over 10 years Urban cluster
City of Solvang	<ul style="list-style-type: none"> Discharge Into A Sensitive Water Body High Population Density 	<ul style="list-style-type: none"> Santa Ynez River, which is on the 303(d) list for nutrients and sediment Urban cluster Tourism

Region 5

Area	Justification	Details
City of Clearlake	<ul style="list-style-type: none"> Discharge Into A Sensitive Water Body High Population Density 	<ul style="list-style-type: none"> Clear Lake which is on the 303(d) list for mercury and nutrients Urbanized cluster
City of Dixon	<ul style="list-style-type: none"> High Growth Or Growth Potential High Population Density 	<ul style="list-style-type: none"> 54.8% over 10 years Urban cluster
City of Grass Valley	<ul style="list-style-type: none"> Discharge To Sensitive Water Bodies High Growth Potential 	<ul style="list-style-type: none"> Receiving waters support threatened and endangered species

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	<ul style="list-style-type: none"> • High Population Density 	<ul style="list-style-type: none"> • Urban cluster
City of Hanford	<ul style="list-style-type: none"> • Urbanized Area in corrected census data 	<ul style="list-style-type: none"> • Urbanized Area in corrected census data
City of Kingsburg	<ul style="list-style-type: none"> • Discharge To Sensitive Water Bodies • High Population Density 	<ul style="list-style-type: none"> • Kings River, used for recreation and agriculture supply • Urban cluster
City of Lakeport	<ul style="list-style-type: none"> • Discharge To Sensitive Water Bodies • High Population Density 	<ul style="list-style-type: none"> • Clear Lake which is on the 303(d) list for mercury and nutrients • Urban cluster
City of Lemoore	<ul style="list-style-type: none"> • Urbanized Area in corrected census data 	<ul style="list-style-type: none"> • Urbanized Area in corrected census data
City of Lincoln	<ul style="list-style-type: none"> • Discharge To Sensitive Water Bodies • High Growth And Growth Potential • High Population Density 	<ul style="list-style-type: none"> • Receiving waters support threatened and endangered species • 54.6% over 10 years and continuing at 15% per year • Urban cluster
City of Los Baños	<ul style="list-style-type: none"> • Discharge Into A Sensitive Water Body • High Growth • High Population Density 	<ul style="list-style-type: none"> • Los Baños Canal which is used for agriculture supply and flows into a water of the U.S. • 78.2% growth over 10 years • Urban cluster
City of Oakdale	<ul style="list-style-type: none"> • Discharge To Sensitive Water Body • High Growth • High Population Density 	<ul style="list-style-type: none"> • Stanislaus River which is on the 303(d) list for pesticides and unknown toxicity • 29.6% over 10 years • Urban cluster
City of Patterson	<ul style="list-style-type: none"> • Discharge To Sensitive Water Body • High Growth • High Population Density 	<ul style="list-style-type: none"> • San Joaquin river which is on the 303(d) list for pesticides, and unknown toxicity • 34.5% over 10 years • Urban cluster
City of Placerville	<ul style="list-style-type: none"> • Discharge To Sensitive Water Body • High Population Density 	<ul style="list-style-type: none"> • Receiving waters support threatened and endangered species • Urban cluster
City of Reedley	<ul style="list-style-type: none"> • Discharge Into Sensitive Water Body • High Population Density 	<ul style="list-style-type: none"> • Kings River, used for recreation and agriculture supply • Urban cluster
City of Rio Vista	<ul style="list-style-type: none"> • Discharge To Sensitive Water Body 	<ul style="list-style-type: none"> • Sacramento River, Delta, which is on the 303(d) list

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	<ul style="list-style-type: none"> • High Population Growth Potential • High Population Density 	<ul style="list-style-type: none"> • for pesticides, mercury, and unknown toxicity • 210% projected growth between 2000 and 2010 • Urban cluster
City of Selma	<ul style="list-style-type: none"> • Discharge To Sensitive Water Bodies • High Population Density 	<ul style="list-style-type: none"> • Discharge to Consolidated Irrigation Canal, which is tributary to Kings River, used for recreation and agriculture supply • Urban cluster
City of Tulare	<ul style="list-style-type: none"> • High Growth • Contributor Of Pollutants To Waters Of The U.S. • High Population Density 	<ul style="list-style-type: none"> • 32.3% growth over 10 years • High population, approaching “urbanized area” • Urban cluster
City of Woodland	<ul style="list-style-type: none"> • Significant Contributor Of Pollutants To Waters Of The U.S. • High Population Density • Discharge To Sensitive Water Bodies 	<ul style="list-style-type: none"> • 49,151 people at the time of the census, essentially the same threat as an urbanized area • Urban cluster • Contact recreation
County of Kings	<ul style="list-style-type: none"> • Urbanized Area in corrected census data 	<ul style="list-style-type: none"> • Urbanized Area in corrected census data
County of Lake	<ul style="list-style-type: none"> • Discharge To Sensitive Water Bodies • High Population Density 	<ul style="list-style-type: none"> • Clear Lake which is on the 303(d) list for mercury and nutrients • Urban cluster

Region 7

Area	Justification	Details
City of Brawley	<ul style="list-style-type: none"> • Discharge To Sensitive Water Body • High Population Density 	<ul style="list-style-type: none"> • New River which is on the 303(d) list for bacteria, nutrients, pesticides, and sedimentation • Urban cluster
City of Calexico	<ul style="list-style-type: none"> • Discharge To Sensitive Water Body • High Population Density 	<ul style="list-style-type: none"> • New River which is on the 303(d) list for bacteria, nutrients, pesticides, and sedimentation • Urban cluster

Non-Traditional Small MS4s

Attachment 3
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Non-traditional Small MS4s anticipated to be designated in the future will include the following entities.

Region	Agency	Facility	Address	City, State, ZIP
1	California Community Colleges	College of the Redwoods	7351 Tompkins Hill Road	Eureka, CA 95501-9301
1	California Community Colleges	Mendocino College	1000 Hensley Creek Rd. PO Box 3000	Ukiah, CA 95482-0300
1	California Community Colleges	Santa Rosa Junior College - Santa Rosa Campus	1501 Mendocino Avenue	Santa Rosa, CA 95401-4395
1	California State University	Humboldt State University	1 Harpst Street	Arcata, CA 95521-8299
1	California State University	Sonoma State University	1801 East Cotati Ave.	Rohnert Park, CA 94928-3609
1	District Agricultural Association	Humboldt County Fairgrounds	3750 Harris Street	Eureka, CA
1	District Agricultural Association	Mendocino County Fairgrounds	1055 North State Street	Ukiah, CA
1	School District, Alexander Valley Union Elementary		8511 Hwy. 128	Healdsburg, CA 95448-9020
1	School District, Arcata Elementary		1435 Buttermilk Lane	Arcata, CA 95521-
1	School District, Bellevue Union Elementary		3223 Primrose Ave.	Santa Rosa, CA 95407-7723
1	School District, Bennett Valley Union Elementary		2250 Mesquite Dr.	Santa Rosa, CA 95405-8310
1	School District, Cotati-Rohnert Park Unified		1601 E Cotati Ave.	Rohnert Park, CA 94928-3606
1	School District, Eureka City Unified		3200 Walford Ave.	Eureka, CA 95503-4887
1	School District, Fieldbrook Elementary		4070 Fieldbrook Road	Arcata, CA 95521-9709
1	School District, Fort Bragg Unified		312 S. Lincoln St.	Fort Bragg, CA 95437-4416
1	School District, Fortuna Union Elementary		843 L St.	Fortuna, CA 95540-1921
1	School District, Fortuna Union High		379 12th St.	Fortuna, CA 95540-2357
1	School District, Freshwater Elementary		75 Greenwood Heights Dr.	Eureka, CA 95503-9569
1	School District, Garfield Elementary		2200 Freshwater Road	Eureka, CA 95503-9562
1	School District, Gravenstein Union Elementary		3840 Twig Ave.	Sebastopol, CA 95472-5750
1	School District, Healdsburg Unified		925 University St.	Healdsburg, CA 95448-3528
1	School District, Mark West Union Elementary		305 Mark West Springs Road	Santa Rosa, CA 95404-1101
1	School District, McKinleyville Union Elementary		2275 Central Ave.	McKinleyville, CA 95519-3611
1	School District, Oak Grove Union Elementary		5285 Hall Road	Santa Rosa, CA 95401-5566
1	School District, Pacific Union Elementary		3001 Janes Road	Arcata, CA 95521-4701
1	School District, Piner-Olivet Union Elementary		3450 Coffey Lane	Santa Rosa, CA 95403-1919
1	School District, Rincon Valley Union Elementary		1000 Yulupa Ave.	Santa Rosa, CA 95405-7020
1	School District, Rohnerville Elementary		3850 Rohnerville Road	Fortuna, CA 95540-3122
1	School District, Roseland Elementary		950 Sebastopol Road	Santa Rosa, CA 95407-6829
1	School District, Santa Rosa Elementary		211 Ridgway Ave.	Santa Rosa, CA 95401-4320
1	School District, Santa Rosa High		211 Ridgway Ave.	Santa Rosa, CA 95401-4320
1	School District, Sebastopol Union Elementary		7905 Valentine Ave.	Sebastopol, CA 95472-3214
1	School District, South Bay Union Elementary		5248 Vance Ave.	Eureka, CA 95503-6351
1	School District, Twin Hills Union Elementary		700 Water Trough Road	Sebastopol, CA 95472-3917
1	School District, Ukiah Unified		925 N. State St.	Ukiah, CA 95482-3411
1	School District, West Side Union Elementary		1201 Felta Road	Healdsburg, CA 95448-9476
1	School District, West Sonoma County Union High		462 Johnson St.	Sebastopol, CA 95472-

Region	Agency	Facility	Address	City, State, ZIP
1	School District, Windsor Unified		9291 Old Redwood Hwy. #300 C	Windsor, CA 95492-9217
1	School District, Wright Elementary		4385 Price Ave.	Santa Rosa, CA 95407-6550
2	Bureau of Prisons	FCI Dublin	5701 8th Street - Camp Parks	Dublin, CA 94568
2	California Air National Guard	129th Rescue Wing	PO Box 103	Moffett Airfield, CA 94035-5006
2	California Community Colleges	Canada College	4200 Farm Hill Boulevard	Redwood City, CA 94061-1099
2	California Community Colleges	Chabot College	25555 Hesperian Blvd PO Box 5001	Hayward, CA 94545-5001
2	California Community Colleges	City College of San Francisco	50 Phelan Avenue, E200	San Francisco, CA 94112-1898
2	California Community Colleges	College of Alameda	555 Atlantic Avenue	Alameda, CA 94501-2109
2	California Community Colleges	College of San Mateo	1700 West Hillsdale Boulevard	San Mateo, CA 94402-3784
2	California Community Colleges	Contra Costa College	2600 Mission Bell Drive	San Pablo, CA 94806-3195
2	California Community Colleges	DeAnza College	21250 Stevens Creek Boulevard	Cupertino, CA 95014-5797
2	California Community Colleges	Diablo Valley College	321 Golf Club Road	Pleasant Hill, CA 94523-1544
2	California Community Colleges	Evergreen Valley College	3095 Yerba Buena Road	San Jose, CA 95135-1598
2	California Community Colleges	Foothill College	12345 El Monte Road	Los Altos Hills, CA 94022-4599
2	California Community Colleges	Laney College	900 Fallon Street	Oakland, CA 94607-4893
2	California Community Colleges	Las Positas College	3033 Collier Canyon Road	Livermore, CA 94550-7650
2	California Community Colleges	Los Medanos College	2700 East Leland Road	Pittsburg, CA 94565-5197
2	California Community Colleges	Merritt College	12500 Campus Drive	Oakland, CA 94619-3196
2	California Community Colleges	Mission College	3000 Mission College Boulevard	Santa Clara, CA 95054-1897
2	California Community Colleges	Napa Valley College	2277 Napa Vallejo Highway	Napa, CA 94558-6236
2	California Community Colleges	Ohlone College	43600 Mission Boulevard	Fremont, CA 94539-0911
2	California Community Colleges	San Jose City College	2100 Moorpark Avenue	San Jose, CA 95128-2799
2	California Community Colleges	Santa Rosa Junior College - Petaluma Campus	680 Sonoma Mountain Parkway	Petaluma, CA 94952
2	California Community Colleges	Skyline College	3300 College Drive	San Bruno, CA 94066-1662
2	California Community Colleges	Solano Community College	4000 Suisun Valley Road	Suisun City, CA 94585-3197
2	California Community Colleges	Vista College	2020 Milvia Street	Berkeley, CA 94704-1183
2	California Community Colleges	West Valley College	14000 Fruitvale Avenue	Saratoga, CA 95070-5699
2	California State University	California State University Hayward	25800 Carlos Bee Blvd	Hayward, CA 94542
2	California State University	California State University Maritime	200 Maritime Academy Drive	Vallejo, CA 94590
2	California State University	CSU Maritime Academy	200 MARITIME	Vallejo, CA
2	California State University	SF State University	1600 Holloway Avenue	San Francisco, CA 94132
2	Corrections, Dept of	San Quentin State Prison		San Quentin, CA 94964
2	Defense, Department of	Camp Parks	Bldg 790 Reserve Forces Training Area	Dublin, CA 94568-5201
2	Defense, Department of	Concord Naval Weapons Station	10 Delta St	Concord, CA 94520-5100
2	Defense, Department of	Oakland Army Base		, CA
2	Defense, Department of	Onizuka Air Station	1080 Lockheed Martin Way Box 41	Sunnyvale, CA 94089-1237
2	Defense, Department of	San Bruno Naval Facility	900 Commodore Drive	San Bruno, CA 94066-5006
2	Defense, Department of	Santa Clara Naval Reserve Center	500 Shenandoah Plaza, P.O. Box 128, M	Mountain View, CA 94035-0128
2	Defense, Department of	Travis Air Force Base	60 Support Group	Travis AFB, CA 94535-5049
2	Developmental Services, Dept of	Agnews Developmental Center East & West	3500 Zanker Road	San Jose, CA
2	District Agricultural Association	Napa County Fairgrounds	575 Third Street	Napa, CA
2	District Agricultural Association	Sonoma-Marin Fair	Fairgrounds Dr	Petaluma, CA

Region	Agency	Facility	Address	City, State, ZIP
2	Education, Dept of	Calif. School for the Blind	500 Walnut Ave.	Fremont, CA 94536-4365
2	Education, Dept of	Calif. School for the Deaf	39350 Gallaudet Dr.	Fremont, CA 94538-2308
2	Energy, Dept of	Sandia National Labs., CA Pgms.	P.O. Box 969, MS-9221	Livermore, CA 94550
2	Health Services, Dept of	Fairfield Animal Facility	6250 Lambie Road	Suisun City, CA
2	Menatl Health, Dept of	Napa State Hospital	2100 Napa-Vallejo Hwy	Napa, CA
2	NASA	Moffett Federal Air Field	NASA - AMES, MS 218-1	Moffett Airfield, CA 94035
2	Port of Oakland		530 Water Street	Oakland, CA 94607
2	Presido Trust		34 Graham Street PO Box 29052	San Francisco, CA 94129-0052
2	Rehabilitation, Dept of	Center for the Blind	400 Adams Street	Albany, CA
2	San Mateo Union High School District		650 N. Delaware St.	San Mateo, CA 94401-1795
2	School District, Acalanes Union High		1212 Pleasant Hill Road	Lafayette, CA 94549-2623
2	School District, Alameda City Unified		2200 Central Ave.	Alameda, CA 94501-4450
2	School District, Albany City Unified		904 Talbot Ave.	Albany, CA 94706-2020
2	School District, Alum Rock Union Elementary		2930 Gay Ave.	San Jose, CA 95127-2322
2	School District, Bayshore Elementary		1 Martin St.	Daly City, CA 94014-1603
2	School District, Belmont-Redwood Shores Elementary		2960 Hallmark Dr.	Belmont, CA 94002-2943
2	School District, Benicia Unified		350 East K St.	Benicia, CA 94510-3437
2	School District, Berkeley Unified		2134 Martin Luther King, Jr. W	Berkeley, CA 94704-1109
2	School District, Berryessa Union Elementary		1376 Piedmont Road	San Jose, CA 95132-2427
2	School District, Brisbane Elementary		1 Solano St.	Brisbane, CA 94005-1342
2	School District, Burlingame Elementary		1825 Trousdale Dr	Burlingame, CA 94010-4509
2	School District, Cabrillo Unified		498 Kelly Ave.	Half Moon Bay, CA 94019-1636
2	School District, Calistoga Joint Unified		1520 Lake St.	Calistoga, CA 94515-1605
2	School District, Cambrian Elementary		4115 Jacksol Dr.	San Jose, CA 95124-3312
2	School District, Campbell Union Elementary		155 N. Third St.	Campbell, CA 95008-2044
2	School District, Campbell Union High		3235 Union Ave.	San Jose, CA 95124-2009
2	School District, Canyon Elementary		187 Pinehurst Road	Canyon, CA 94516-0187
2	School District, Castro Valley Unified		4430 Alma Ave.	Castro Valley, CA 94546-0146
2	School District, Cinnabar Elementary		286 Skillman Lane	Petaluma, CA 94975-0399
2	School District, Cupertino Union Elementary		10301 Vista Dr.	Cupertino, CA 95014-2040
2	School District, Dixie Elementary		380 Nova Albion Way	San Rafael, CA 94903-3523
2	School District, Dublin Unified		7471 Larkdale Ave.	Dublin, CA 94568-1500
2	School District, Dunham Elementary		4111 Roblar Road	Petaluma, CA 94952-9202
2	School District, East Side Union High		830 N. Capitol Ave.	San Jose, CA 95133-1316
2	School District, Emery Unified		4727 San Pablo Ave.	Emeryville, CA 94608-3035
2	School District, Evergreen Elementary		3188 Quimby Road	San Jose, CA 95148-3022
2	School District, Fairfield-Suisun Unified		1975 Pennsylvania Ave.	Fairfield, CA 94533-
2	School District, Franklin-McKinley Elementary		645 Wool Creek Dr.	San Jose, CA 95112-2617
2	School District, Fremont Unified		4210 Technology Dr.	Fremont, CA 94537-5008
2	School District, Fremont Union High		589 W. Fremont Ave.	Sunnyvale, CA 94087-
2	School District, Hayward Unified		24411 Amador St.	Hayward, CA 94540-0001
2	School District, Hillsborough City Elementary		300 El Cerrito Ave.	Hillsborough, CA 94010-6818

Region	Agency	Facility	Address	City, State, ZIP
2	School District, Jefferson Elementary		101 Lincoln Ave.	Daly City, CA 94015-3934
2	School District, Jefferson Union High		699 Serramonte Blvd., Suite 100	Daly City, CA 94015-4132
2	School District, John Swett Unified		341 #B (Selby)	Crockett, CA 94525-
2	School District, La Honda-Pescadero Unified		620 North St	Pescadero, CA 94060-0189
2	School District, Lafayette Elementary		3477 School St.	Lafayette, CA 94549-1029
2	School District, Laguna Joint Elementary		3286 Chileno Valley Road	Petaluma, CA 94952-9428
2	School District, Laguna Salada Union Elementary		375 Reina del Mar	Pacifica, CA 94044-3052
2	School District, Lakeside Joint Elementary		19621 Black Road	Los Gatos, CA 95030-9522
2	School District, Larkspur Elementary		230 Doherty Dr.	Larkspur, CA 94939-
2	School District, Las Lomas Elementary		1011 Altschul Ave.	Menlo Park, CA 94025-6706
2	School District, Liberty Elementary		170 Liberty Road	Petaluma, CA 94952-1074
2	School District, Lincoln Elementary		1300 Hicks Valley Road	Petaluma, CA 94952-9407
2	School District, Livermore Valley Joint Unified		685 E. Jack London Blvd.	Livermore, CA 94550-1800
2	School District, Loma Prieta Joint Union Elementary		23800 Summit Road	Los Gatos, CA 95033-4054
2	School District, Los Altos Elementary		201 Covington Road	Los Altos, CA 94024-4030
2	School District, Los Gatos Union Elementary		15766 Poppy Lane	Los Gatos, CA 95030-3228
2	School District, Los Gatos-Saratoga Joint Union High		17421 Farley Road West	Los Gatos, CA 95030-3308
2	School District, Luther Burbank Elementary		4 Wabash Ave.	San Jose, CA 95128-1931
2	School District, Martinez Unified		921 Susana St.	Martinez, CA 94553-1848
2	School District, Menlo Park City Elementary		181 Encinal Ave.	Atherton, CA 94027-3102
2	School District, Mill Valley Elementary		411 Sycamore Ave.	Mill Valley, CA 94941-2231
2	School District, Millbrae Elementary		555 Richmond Dr.	Millbrae, CA 94030-1600
2	School District, Milpitas Unified		1331 E. Calaveras Blvd.	Milpitas, CA 95035-5707
2	School District, Montebello Elementary		15101 Montebello Road	Cupertino, CA 95014-5431
2	School District, Moraga Elementary		1540 School St.	Moraga, CA 94556-0158
2	School District, Moreland Elementary		4710 Campbell Ave.	San Jose, CA 95130-1709
2	School District, Mountain View-Los Altos Union High		1299 Bryant Ave.	Mountain View, CA 94040-4527
2	School District, Mountain View-Whisman Elementary		750 A San Pierre Way	Mountain View, CA 94043-
2	School District, Mt. Diablo Unified		1936 Carlotta Dr.	Concord, CA 94519-1358
2	School District, Mt. Pleasant Elementary		3434 Marten Ave.	San Jose, CA 95148-
2	School District, Napa Valley Unified		2425 Jefferson St.	Napa, CA 94558-4931
2	School District, New Haven Unified		34200 Alvarado-Niles Road	Union City, CA 94587-4402
2	School District, Newark Unified		5715 Musick Ave.	Newark, CA 94560-0385
2	School District, Novato Unified		1015 Seventh St.	Novato, CA 94945-2205
2	School District, Oak Grove Elementary		6578 Santa Teresa Blvd.	San Jose, CA 95119-1204
2	School District, Oakland Unified		1025 Second Ave.	Oakland, CA 94606-2212
2	School District, Old Adobe Union Elementary		845 Crinella Dr.	Petaluma, CA 94954-4450
2	School District, Orchard Elementary		921 Fox Lane	San Jose, CA 95131-
2	School District, Orinda Union Elementary		8 Altarinda Road	Orinda, CA 94563-2603
2	School District, Palo Alto Unified		25 Churchill Ave.	Palo Alto, CA 94306-1005
2	School District, Petaluma City Elementary		200 Douglas St.	Petaluma, CA 94952-2575
2	School District, Petaluma Joint Union High		200 Douglas St.	Petaluma, CA 94952-2575

Region	Agency	Facility	Address	City, State, ZIP
2	School District, Piedmont City Unified		760 Magnolia Ave.	Piedmont, CA 94611-4047
2	School District, Pittsburg Unified		2000 Railroad Ave.	Pittsburg, CA 94565-3830
2	School District, Pleasanton Unified		4665 Bernal Ave.	Pleasanton, CA 94566-7449
2	School District, Portola Valley Elementary		4575 Alpine Road	Portola Valley, CA 94028-8040
2	School District, Ravenswood City Elementary		2160 Euclid Ave.	East Palo Alto, CA 94303-1703
2	School District, Redwood City Elementary		750 Bradford St.	Redwood City, CA 94063-1727
2	School District, Reed Union Elementary		105A Avenida Miraflores	Tiburon, CA 94920-
2	School District, Ross Elementary		Lagunitas and Allen Aves.	Ross, CA 94957-1058
2	School District, Ross Valley Elementary		46 Green Valley Court	San Anselmo, CA 94960-1112
2	School District, San Bruno Park Elementary		500 Acacia Ave.	San Bruno, CA 94066-4298
2	School District, San Carlos Elementary		826 Chestnut St.	San Carlos, CA 94070-3802
2	School District, San Francisco Unified		135 Van Ness Ave.	San Francisco, CA 94102-5207
2	School District, San Jose Unified		855 Lenzen Ave.	San Jose, CA 95126-2736
2	School District, San Leandro Unified		14735 Juniper St.	San Leandro, CA 94579-1222
2	School District, San Lorenzo Unified		15510 Usher St.	San Lorenzo, CA 94580-
2	School District, San Mateo-Foster City Elementary		300 28th Ave.	San Mateo, CA 94402-0058
2	School District, San Rafael City Elementary		310 Nova Albion Way	San Rafael, CA 94903-
2	School District, San Rafael City High		310 Nova Albione	San Rafael, CA 94903-3500
2	School District, San Ramon Valley Unified		699 Old Orchard Dr.	Danville, CA 94526-4331
2	School District, Santa Clara Unified		1889 Lawrence Road	Santa Clara, CA 95052-0397
2	School District, Saratoga Union Elementary		20460 Forrest Hills Dr.	Saratoga, CA 95070-6020
2	School District, Sausalito Elementary		630 Nevada St.	Sausalito, CA 94965-1654
2	School District, Sequoia Union High		480 James Ave.	Redwood City, CA 94062-1041
2	School District, Sonoma Valley Unified		721 W. Napa St.	Sonoma, CA 95476-6412
2	School District, St. Helena Unified		465 Main St.	St. Helena, CA 94574-2159
2	School District, Sunnyvale Elementary		819 W. Iowa Ave.	Sunnyvale, CA 94088-3217
2	School District, Sunol Glen Unified		Main & Bond Sts.	Sunol, CA 94586-0569
2	School District, Tamalpais Union High		395 Doherty Dr.	Larkspur, CA 94977-0605
2	School District, Two Rock Union Elementary		5001 Spring Hill Road	Petaluma, CA 94952-9639
2	School District, Union Elementary		5175 Union Ave.	San Jose, CA 95124-5434
2	School District, Union Joint Elementary		5300 Red Hill Road	Petaluma, CA 94952-
2	School District, Vallejo City Unified		211 Valle Vista	Vallejo, CA 94590-3256
2	School District, Walnut Creek Elementary		960 Ygnacio Valley Road	Walnut Creek, CA 94596-3892
2	School District, Waugh Elementary		880 Maria Dr.	Petaluma, CA 94954-6837
2	School District, West Contra Costa Unified		1108 Bissell Ave.	Richmond, CA 94801-3135
2	School District, Wilmar Union Elementary		3775 Bodega Ave.	Petaluma, CA 94952-8023
2	School District, Woodside Elementary		3195 Woodside Road	Woodside, CA 94062-2552
2	Transportation, Department of	Alameda Coast Guard Integrated Support Command	MLCP "VS" Bldg 50-8, Coast Guard Isla	Alameda, CA 94501
2	Transportation, Department of	Petaluma Coast Guard Training Center	599 Tomales Rd	Petaluma, CA 94952-5000
2	University of California	Berkeley Laboratory	1 Cyclotron Road MS-65	Berkeley, CA 94720
2	University of California	Lawrence Livermore National Laboratory	7000 East Ave.	Livermore, CA 94550-9234
2	University of California	The University of California, San Francisco		San Francisco, CA 94143

Region	Agency	Facility	Address	City, State, ZIP
2	University of California	University of California Berkeley	Department/Office Name	Berkeley, CA 94720
2	Veteran Affairs	Martinez Center for Rehab & Extended Care	150 Muir Rd.	Martinez, CA 94553
2	Veteran Affairs	San Francisco VA Medical Center	4150 Clement Street	San Francisco, CA 94121-1598
2	Veteran Affairs	VA Northern California Health Care System	150 Muir Rd.	Martinez, CA 94553
2	Veteran Affairs	VA Palo Alto Health Care System	3801 Miranda Avenue	Palo Alto, CA 94304-290
3	Bureau of Prisons	FCI Lompoc	3600 Guard Road	Lompoc, CA 93436
3	Bureau of Prisons	USP Lompoc	3901 Klein Boulevard	Lompoc, CA 93436
3	California Army National Guard	Camp Roberts	ATTN: CACR-DIS	Camp Roberts, CA 93451-5000
3	California Army National Guard	Camp San Luis Obispo	PO Box 4360	San Luis Obispo, CA 93403-4360
3	California Community Colleges	Allan Hancock College	800 South College Drive	Santa Maria, CA 93454-6368
3	California Community Colleges	Cabrillo College	6500 Soquel Drive	Aptos, CA 95003-3119
3	California Community Colleges	Cuesta College	PO Box 8106	San Luis Obispo, CA 93403-8106
3	California Community Colleges	Gavilan College	5055 Santa Teresa Blvd.	Gilroy, CA 95020-9599
3	California Community Colleges	Hartnell College	156 Homestead Avenue	Salinas, CA 93901-1697
3	California Community Colleges	Monterey Peninsula College	980 Fremont Street	Monterey, CA 93940-4799
3	California Community Colleges	Santa Barbara City College	721 Cliff Drive	Santa Barbara, CA 93109-2394
3	California State University	California Polytechnic State University	1 Grand Ave.	San Luis Obispo, CA 93407
3	California State University	California State Monterey Bay	100 Campus Center	Seaside, CA 93955
3	California Youth Authority	Ben Lomond Youth Conservation Camp	13575 Empire Grade	Santa Cruz, CA
3	California Youth Authority	El Paso de Robles Youth Correctional Facility	Airport Road	Paso Robles, CA
3	Corrections, Dept of	California Men's Colony	Highway 1	San Luis Obispo, CA 93409-8101
3	Corrections, Dept of	Correctional Training Facility	Highway 101 North	Soledad, CA 93960-0686
3	Corrections, Dept of	Salinas Valley State Prison	PO Box 1020	Soledad, CA 93960-1020
3	Defense, Department of	Camp San Luis Obispo	PO Box 4360	San Luis Obispo, CA 93403-4360
3	Defense, Department of	Defense Language Institute Foreign Language Center and	Bldg 4463 Giggling Rd.	Presidio of Monterey, CA 93941-5777
3	Defense, Department of	Fort Hunter Liggett	AFRC-FMH-CDR	Fort Hunter Liggett, CA 93928-7000
3	Defense, Department of	Naval Postgraduate School Monterey Bay	1 University Circle	Monterey, CA 93943-5001
3	Defense, Department of	Vandenberg Air Force Base	30 CES/CEZ, 806 13th St. Suite 116	Vandenberg Air Force Base, CA 93437-5242
3	District Agricultural Association	Earl Warren Showgrounds (National Horse Show)	3400 Calle Real	Santa Barbara, CA
3	District Agricultural Association	Monterey County Fairgrounds	2004 Fairground Road	Monterey, CA
3	District Agricultural Association	San Luis Obispo County Fairgrounds	2198 Riverside Avenue	Paso Robles, CA
3	District Agricultural Association	Santa Cruz County Fairgrounds	2601 Eest Lake Avenue	Watsonville, CA
3	District Agricultural Association	Santa Maria Fairpark	937 S Thornburg Street	Santa Maria, CA
3	Mental Health, Dept of	Atascadero State Hospital	10333 El Camino Real	Atascadero, CA
3	School District, Alisal Union Elementary		1205 E. Market St.	Salinas, CA 93905-2831
3	School District, Atascadero Unified		5601 West Mall	Atascadero, CA 93422-4234
3	School District, Ballard Elementary		2425 School St.	Solvang, CA 93463-9709
3	School District, Bitterwater-Tully Union Elementary		Lonoak Rt.	King City, CA 93930-
3	School District, Blochman Union Elementary		4949 Foxen Canyon Road	Santa Maria, CA 93454-9666
3	School District, Bonny Doon Union Elementary		1492 Pine Flat Road	Santa Cruz, CA 95060-9711

Region	Agency	Facility	Address	City, State, ZIP
3	School District, Buellton Union Elementary		301 Second St.	Buellton, CA 93427-0075
3	School District, Carmel Unified		4380 Carmel Valley Road	Carmel, CA 93922-2700
3	School District, Carpinteria Unified		1400 Lindon Ave.	Carpinteria, CA 93013-1414
3	School District, Cayucos Elementary		2950 Santa Rosa Creek Road	Cambria, CA 93428-3506
3	School District, Cienega Union Elementary		11936 Cienega Road	Hollister, CA 95023-9697
3	School District, Coast Unified		2950 Santa Rosa Creek Road	Cambria, CA 93428-3506
3	School District, Cold Spring Elementary		2243 Sycamore Canyon Road	Santa Barbara, CA 93108-1909
3	School District, College Elementary		3325 Pine St.	Santa Ynez, CA 93460-0188
3	School District, Gilroy Unified		7810 Arroyo Circle	Gilroy, CA 95020-7313
3	School District, Goleta Union Elementary		401 N. Fairview Ave.	Goleta, CA 93117-1732
3	School District, Graves Elementary		15 McFadden Road	Salinas, CA 93908-
3	School District, Greenfield Union Elementary		493 El Camino Real	Greenfield, CA 93927-
3	School District, Happy Valley Elementary		3125 Branciforte Dr.	Santa Cruz, CA 95065-9775
3	School District, Hollister School District		2690 Cienega Rd	Hollister, CA 95023-
3	School District, Hope Elementary		3970 la Colina Road	Santa Barbara, CA 93110-1563
3	School District, King City Joint Union High		800 Broadway	King City, CA 93930-3326
3	School District, King City Union Elementary		800 Broadway	King City, CA 93930-2984
3	School District, Lagunita Elementary		975 San Juan Grade Road	Salinas, CA 93907-8438
3	School District, Live Oak Elementary		984-1 Bostwick Lane	Santa Cruz, CA 95062-1756
3	School District, Live Oak Unified		2201 Pennington Road	Live Oak, CA 95953-2469
3	School District, Lompoc Unified		1301 North A St.	Lompoc, CA 93438-8000
3	School District, Los Olivos Elementary		2540 Alamo Pintado Ave.	Los Olivos, CA 93441-0208
3	School District, Lucia Mar Unified		602 Orchard St.	Arroyo Grande, CA 93420-4000
3	School District, Mission Union Elementary		36825 Foothill Road	Soledad, CA 93960-9656
3	School District, Montecito Union Elementary		385 San Ysidro Road	Santa Barbara, CA 93108-2131
3	School District, Monterey Peninsula Unified		700 Pacific St.	Monterey, CA 93942-1031
3	School District, Morgan Hill Unified		15600 Concord Circle	Morgan Hill, CA 95037-7110
3	School District, Mountain Elementary		3042 Old San Jose Road	Soquel, CA 95073-9752
3	School District, North County Joint Union Elementary		500 Spring Grove Road	Hollister, CA 95023-9366
3	School District, Nuestro Elementary		3934 Broadway Road	Live Oak, CA 95953-9401
3	School District, Orcutt Union Elementary		Soares & Dyer Sts.	Orcutt, CA 93457-2310
3	School District, Pacific Grove Unified		555 Sinex Ave.	Pacific Grove, CA 93950-4320
3	School District, Pajaro Valley Joint Unified		294 Greenvalley Rd	Watsonville, CA 95076-
3	School District, Paso Robles Joint Unified		800 Niblick Road	Paso Robles, CA 93447-7010
3	School District, Salinas City Elementary		431 W. Alisal St.	Salinas, CA 93901-1624
3	School District, Salinas Union High		431 W. Alisal St.	Salinas, CA 93901-1624
3	School District, San Benito High		1220 Monterey St.	Hollister, CA 95023-4708
3	School District, San Lorenzo Valley Unified		6134 Hwy. 9	Felton, CA 95018-9704
3	School District, San Luis Coastal Unified		1500 Lizzie St.	San Luis Obispo, CA 93401-3099
3	School District, Santa Barbara Elementary		720 Santa Barbara St.	Santa Barbara, CA 93101-
3	School District, Santa Barbara High		720 Santa Barbara St.	Santa Barbara, CA 93101-
3	School District, Santa Cruz City Elementary		2931 Mission St.	Santa Cruz, CA 95060-

Region	Agency	Facility	Address	City, State, ZIP
3	School District, Santa Cruz City High		2931 Mission St.	Santa Cruz, CA 95060-5709
3	School District, Santa Maria Joint Union High		2560 Skyway Dr.	Santa Maria, CA 93455-
3	School District, Santa Maria-Bonita Elementary		708 S. Miller St.	Santa Maria, CA 93454-6230
3	School District, Santa Rita Union Elementary		57 Russell Road	Salinas, CA 93906-4325
3	School District, Santa Ynez Valley Union High		2975 E. Hwy. 246	Santa Ynez, CA 93460-
3	School District, Scotts Valley Unified		4444 Scotts Valley Dr., Ste 5B	Scotts Valley, CA 95066-4529
3	School District, Soledad Unified		335 Market St.	Soledad, CA 93960-
3	School District, Solvang Elementary		565 Atterdag Road	Solvang, CA 93463-2690
3	School District, Soquel Union Elementary		620 Monterey Ave.	Capitola, CA 95010-3618
3	School District, Southside Elementary		4991 Southside Road	Hollister, CA 95023-9637
3	School District, Templeton Unified		960 Old County Road	Templeton, CA 93465-9419
3	School District, Washington Union Elementary		43 San Benancio Canyon Rd	Salinas, CA 93908-
3	University of California	UC Santa Barbara		Santa Barbara, CA 93106
3	University of California	University of California, Santa Cruz	1156 High Street	Santa Cruz, CA 95064
4	Bureau of Prisons	CCM Long Beach	535 N. Alameda Street	Los Angeles, CA 90012
4	Bureau of Prisons	FCI Terminal Island	1299 Seaside Avenue	Terminal Island, CA 90731
4	California Air National Guard	Channel Island Air National Guard Base	100 Mulcahey Dr	Port Hueneme, CA 93041-4002
4	California Community Colleges	Cerritos College	11110 Alondra Boulevard	Norwalk, CA 90650-6269
4	California Community Colleges	Citrus College	1000 West Foothill Boulevard	Glendora, CA 91741-1899
4	California Community Colleges	College Of The Canyons	26455 N. Rockwell Canyon Road	Santa Clarita, CA 91355-1899
4	California Community Colleges	Compton College	1111 East Artesia Boulevard	Compton, CA 90221-5393
4	California Community Colleges	East Los Angeles College	1301 Avenida Cesar Chavez	Monterey Park, CA 91754-6099
4	California Community Colleges	El Camino College	16007 Crenshaw Boulevard	Torrance, CA 90506-0002
4	California Community Colleges	Glendale Community College	1500 North Verdugo Road	Glendale, CA 91208-2894
4	California Community Colleges	Long Beach City College	4901 East Carson Street	Long Beach, CA 90808-1706
4	California Community Colleges	Los Angeles City College	855 North Vermont Avenue	Los Angeles, CA 90029-3590
4	California Community Colleges	Los Angeles Harbor College	1111 Figueroa Place	Wilmington, CA 90744-2397
4	California Community Colleges	Los Angeles Mission College	13356 Eldridge Avenue	Sylmar, CA 91342-3200
4	California Community Colleges	Los Angeles Pierce College	6201 Winnetka Avenue	Woodland Hills, CA 91371-0001
4	California Community Colleges	Los Angeles Southwest College	1600 West Imperial Highway	Los Angeles, CA 90047-4899
4	California Community Colleges	Los Angeles Trade-Tech College	400 West Washington Boulevard	Los Angeles, CA 90015-4108
4	California Community Colleges	Los Angeles Valley College	5800 Fulton Avenue	Van Nuys, CA 91401-4096
4	California Community Colleges	Moorpark College	7075 Campus Road	Moorpark, CA 93201-1695
4	California Community Colleges	Mt. San Antonio College	1100 North Grand Avenue	Walnut, CA 91789-1399
4	California Community Colleges	Oxnard College	4000 South Rose Avenue	Oxnard, CA 93033-6699
4	California Community Colleges	Pasadena City College	1570 East Colorado Boulevard	Pasadena, CA 91106-2003
4	California Community Colleges	Rio Hondo College	3600 Workman Mill Road	Whittier, CA 90601-1699
4	California Community Colleges	Santa Monica College	1900 Pico Boulevard	Santa Monica, CA 90405-1628
4	California Community Colleges	Ventura College	4667 Telegraph Road	Ventura, CA 93003-3899
4	California Community Colleges	West Los Angeles College	4800 Freshman Drive	Culver City, CA 90230-3500
4	California State University	California State Polytechnic University, Pomona	3801 West Temple Avenue	Pomona, CA 91768
4	California State University	California State University Channel Islands	One University Drive	Camarillo, CA 93012

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4	California State University	California State University Dominguez Hills	1000 E. Victoria Street	Carson, CA 90747
4	California State University	California State University Long Beach	1250 Bellflower Blvd.	Long Beach, CA 90840
4	California State University	California State University Los Angeles	5151 State University Drive	Los Angeles, CA 90032-4226
4	California State University	California State University Northridge	18111 Nordhoff Street	Northridge, CA 91330
4	California Youth Authority	Fred C. Nelles Youth Correcitonal Facility	11850 E Whittier	Whittier, CA
4	California Youth Authority	Southern Youth Correctional Reception Center and Clinic	13200 S Bloomfield Ave	Norwalk, CA
4	California Youth Authority	Ventura Youth Correctional Facility	3100 Wright Rd	Camarillo, CA
4	Defense, Department of	Corona Naval Station	P.O. Box 5000	Corona, CA 92878-5000
4	Defense, Department of	Los Angeles Air Force Base	61 ABG/CEZV, 2420 Vela Way Suite 14	El Segundo, CA 90245
4	Defense, Department of	Naval Auxiliary Landing Field, San Clemente Island	33000 Nixie Way Bldg 50, Suite 326	San Diego, CA 92147-5110
4	Defense, Department of	Naval Base Ventura County		, CA
4	Defense, Department of	Port Hueneme Naval Facility	4363 Missile Way	Port Hueneme, CA 93043-4307
4	Defense, Department of	San Nicholas Island Naval Facility	NAWS-890000E	Point Mugu, CA 93042-5001
4	Devlopmental Services, Dept of	Lanterman Developmental Center	3530 West Pomona Blvd	Pomona, CA
4	District Agricultural Association	Ventura County Fairgrounds	10 West Harbor Blvd	Ventura, CA
4	Mental Health, Dept of	Metropolitan State Hospital	11401 Bloomfield Avenue	Norwalk, CA
4	School District, ABC Unified		16700 Norwalk Blvd.	Cerritos, CA 90703-1838
4	School District, Acton-Agua Dulce Unified		32248 N. Crown Valley Road	Acton, CA 93510-0068
4	School District, Alhambra City Elementary		15 W. Alhambra Road	Alhambra, CA 91802-2110
4	School District, Alhambra City High		15 W. Alhambra Road	Alhambra, CA 91802-2110
4	School District, Arcadia Unified		234 Campus Dr.	Arcadia, CA 91007-6902
4	School District, Azusa Unified		546 S. Citrus Ave.	Azusa, CA 91702-0500
4	School District, Baldwin Park Unified		3699 N. Holly Ave.	Baldwin Park, CA 91706-5397
4	School District, Bassett Unified		904 N. Willow Ave.	La Puente, CA 91746-1615
4	School District, Bellflower Unified		16703 S. Clark Ave.	Bellflower, CA 90706-5203
4	School District, Beverly Hills Unified		255 S. Lasky Dr.	Beverly Hills, CA 90212-3644
4	School District, Bonita Unified		115 W. Allen Ave.	San Dimas, CA 91773-1437
4	School District, Briggs Elementary		14438 W. Telegraph Road	Santa Paula, CA 93060-3088
4	School District, Burbank Unified		1900 W Olive Ave	Burbank, CA 91506
4	School District, Castaic Union Elementary		28131 Livingston Ave.	Valencia, CA 91355-
4	School District, Centinela Valley Union High		14901 S. Inglewood Ave.	Lawndale, CA 90260-1251
4	School District, Charter Oak Unified		20240 Cienega Ave.	Covina, CA 91723-0009
4	School District, Claremont Unified		2080 N. Mountain Ave.	Claremont, CA 91711-2643
4	School District, Compton Unified		604 S. Tamarind Ave.	Compton, CA 90220-3826
4	School District, Conejo Valley Unified		1400 E. Janss Road	Thousand Oaks, CA 91362-2133
4	School District, Covina-Valley Unified		519 E. Badillo St.	Covina, CA 91723-0269
4	School District, Culver City Unified		4034 Irving Pl.	Culver City, CA 90232-2810
4	School District, Downey Unified		11627 Brookshire Ave.	Downey, CA 90241-7017
4	School District, Duarte Unified		1620 Huntington Dr.	Duarte, CA 91010-2534
4	School District, East Whittier City Elementary		14535 E. Whittier Blvd.	Whittier, CA 90605-2130
4	School District, El Monte City Elementary		3540 N. Lexington Ave.	El Monte, CA 91731-2684
4	School District, El Monte Union High		3537 Johnson Ave.	El Monte, CA 91731-3290

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4		School District, El Rancho Unified	9333 Loch Lomond Dr.	Pico Rivera, CA 90660-2913
4		School District, El Segundo Unified	641 Sheldon St.	El Segundo, CA 90245-3036
4		School District, Fillmore Unified	627 Sespe Ave.	Fillmore, CA 93016-0697
4		School District, Garvey Elementary	2730 N. del Mar	Rosemead, CA 91770-3026
4		School District, Glendale Unified	223 N. Jackson St.	Glendale, CA 91206-4334
4		School District, Glendora Unified	500 N. Loraine Ave.	Glendora, CA 91741-2964
4		School District, Hacienda la Puente Unified	15959 E. Gale Ave.	City Of Industry, CA 91716-
4		School District, Hawthorne Elementary	14120 S. Hawthorne Blvd.	Hawthorne, CA 90250-
4		School District, Hermosa Beach City Elementary	1645 Valley Dr.	Hermosa Beach, CA 90254-2921
4		School District, Hueneme Elementary	205 North Ventura Road	Port Hueneme, CA 93041-3065
4		School District, Inglewood Unified	401 S. Inglewood Ave.	Inglewood, CA 90301-2501
4		School District, La Canada Unified	5039 Palm Dr.	La Canada, CA 91011-1518
4		School District, Las Virgenes Unified	4111 N. Las Virgenes Road	Calabasas, CA 91302-1929
4		School District, Lawndale Elementary	4161 W. 147th St.	Lawndale, CA 90260-1709
4		School District, Lennox Elementary	10319 S. Firmona Ave.	Lennox, CA 90304-1419
4		School District, Little Lake City Elementary	10515 S. Pioneer Blvd.	Santa Fe Springs, CA 90670-3703
4		School District, Long Beach Unified	1515 Hughes Way	Long Beach, CA 90810-1839
4		School District, Los Angeles Unified	450 N. Grand Ave.	Los Angeles, CA 90012-2100
4		School District, Los Nietos Elementary	8324 S. Westman Ave., Whittier	Whittier, CA 90606-
4		School District, Lowell Joint	11019 Valley Home Ave.	Whittier, CA 90603-3042
4		School District, Lynwood Unified	11321 Bullis Road	Lynwood, CA 90262-3600
4		School District, Manhattan Beach Unified	1230 Rosecrans Suite 400	Manhattan Beach, CA 90266-2478
4		School District, Mesa Union Elementary	3901 N. Mesa School Road	Somis, CA 93066-9734
4		School District, Monrovia Unified	325 E. Huntington Dr.	Monrovia, CA 91016-3585
4		School District, Montebello Unified	123 S. Montebello Blvd.	Montebello, CA 90640-4729
4		School District, Moorpark Unified	30 Flory Ave.	Moorpark, CA 93021-1862
4		School District, Mountain View Elementary	3320 Gilman Road	El Monte, CA 91732-3226
4		School District, Mupu Elementary	4410 N. Ojai Road	Santa Paula, CA 93060-9681
4		School District, Newhall Elementary	25375 Orchard Village, Ste. 200	Valencia, CA 91355-3055
4		School District, Norwalk-La Mirada Unified	12820 Pioneer Blvd.	Norwalk, CA 90650-2894
4		School District, Ocean View Elementary	2382 Etting Road	Oxnard, CA 93033-6864
4		School District, Ojai Unified	414 E. Ojai Ave.	Ojai, CA 93024-0878
4		School District, Oxnard Elementary	1051 South A St.	Oxnard, CA 93030-7442
4		School District, Oxnard Union High	309 South K St.	Oxnard, CA 93030-5212
4		School District, Palos Verdes Peninsula Unified	3801 Via la Selva	Palos Verdes Estates, CA 90274-1119
4		School District, Paramount Unified	15110 California Ave.	Paramount, CA 90723-4320
4		School District, Pasadena Unified	351 S. Hudson Ave.	Pasadena, CA 91101-3507
4		School District, Pleasant Valley Elementary	600 Temple Ave.	Camarillo, CA 93010-4835
4		School District, Pomona Unified	800 S. Garey Ave	Pomona, CA 91769-2900
4		School District, Redondo Beach Unified	1401 Inglewood Ave.	Redondo Beach, CA 90278-3912
4		School District, Rio Elementary	3300 Cortez St.	Oxnard, CA 93030-1309

Region	Agency	Facility	Address	City, State, ZIP
4	School District, Rosemead Elementary		3907 Rosemead Blvd.	Rosemead, CA 91770-2041
4	School District, Rowland Unified		1830 Nogales St.	Rowland Heights, CA 91748-
4	School District, San Gabriel Unified		102 E. Broadway	San Gabriel, CA 91776-4500
4	School District, San Marino Unified		1665 West Dr.	San Marino, CA 91108-2594
4	School District, Santa Clara Elementary		20030 E. Telegraph Road	Santa Paula, CA 93060-9691
4	School District, Santa Monica-Malibu Unified		1651 16th St.	Santa Monica, CA 90404-3891
4	School District, Santa Paula Elementary		201 S. Steckel Dr.	Santa Paula, CA 93061-0710
4	School District, Santa Paula Union High		500 E. Santa Barbara St.	Santa Paula, CA 93060-2633
4	School District, Saugus Union Elementary		24930 Avenue Stanford	Santa Clarita, CA 91355-1272
4	School District, Simi Valley Unified		875 E. Cochran	Simi Valley, CA 93065-0999
4	School District, Somis Union Elementary		5268 North St.	Somis, CA 93066-0900
4	School District, South Pasadena Unified		1020 El Centro St.	South Pasadena, CA 91030-3118
4	School District, South Whittier Elementary		10120 Painter Ave.	Whittier, CA 90605-0037
4	School District, Sulphur Springs Union Elementary		17866 Sierra Hwy.	Canyon Country, CA 91351-1671
4	School District, Temple City Unified		9700 Las Tunas Drive	Temple City, CA 91780-
4	School District, Torrance Unified		2335 Plaza del Amo	Torrance, CA 90501-3420
4	School District, Valle Lindo Elementary		1431 N. Central Ave.	South El Monte, CA 91733-3388
4	School District, Ventura Unified		120 E. Santa Clara St.	Ventura, CA 93001-2716
4	School District, Walnut Valley Unified		880 S. Lemon Ave.	Walnut, CA 91789-2931
4	School District, West Covina Unified		1717 W. Merced Ave.	West Covina, CA 91790-3406
4	School District, Whittier City Elementary		7211 S. Whittier Ave.	Whittier, CA 90602-1123
4	School District, Whittier Union High		9401 S. Painter Ave.	Whittier, CA 90605-2798
4	School District, William S. Hart Union High		21515 Redview Dr.	Santa Clarita, CA 91350-2948
4	School District, Wiseburn Elementary		13530 Aviation Blvd.	Hawthorne, CA 90250-6462
4	Science Center, California	California Science Center	700 State Drive	Los Angeles, CA
4	University of California	UCLA	405 Hilgard Avenue Box 951361	Los Angeles, CA 90095-1361
4	Veteran Affairs	Long Beach VA Medical Center	5901 E. 7th Street	Long Beach, CA 90822
4	Veteran Affairs	VA Greater Los Angeles Healthcare System (GLA)	11301 Willshire Boulevard	Los Angeles, CA 90073
5F	Bureau of Prisons	USP Atwater	PO Box 019000	Atwater, CA 95301
5F	California Air National Guard	144th Fighter Wing	5323 East McKinley Avenue	Fresno, CA 93727-2199
5F	California Air National Guard	Fresno Air National Guard Base	5323 E McKinley Ave	Fresno, CA 93727
5F	California Community Colleges	Bakersfield College	1801 Panorama Drive	Bakersfield, CA 93305-1299
5F	California Community Colleges	College of the Sequoias	915 South Mooney Boulevard	Visalia, CA 93277-2234
5F	California Community Colleges	Fresno City College	1101 E. University Avenue	Fresno, CA 93741-0001
5F	California Community Colleges	Merced College	3600 M Street	Merced, CA 95348-2898
5F	California Community Colleges	Porterville College	100 East College Avenue	Porterville, CA 93257-5901
5F	California Community Colleges	Reedley College	995 N. Reed Avenue	Reedley, CA 93654-2099
5F	California State University	California State University Bakersfield	9001 Stockdale Highway	Bakersfield, CA 93311-1099
5F	Defense, Department of	Lemoore Naval Air Station	751 Enterprise Ave	Lemoore NAS, CA 93246
5F	Developmental Services, Dept of	Porterville Developmental Center	26501 AVE 140	Porterville, CA
5F	District Agricultural Association	Kern County Fairgrounds	1142 South P Street	Bakersfield, CA
5F	District Agricultural Association	Kings County Fairgrounds	810 S 10th Ave	Hanford, CA

Region	Agency	Facility	Address	City, State, ZIP
5F	District Agricultural Association	Madera County Fairgournds	1850 W Cleveland	Madera, CA
5F	District Agricultural Association	Merced County Fairgrounds	900 Martin Luther King	Merced, CA
5F	District Agricultural Association	The Big Fresno Fair	1121 Chance Ave	Fresno, CA
5F	District Agricultural Association	Tulare County Fairgrounds	215 Martin Luther King	Tulare, CA
5F	School District, Alta Vista Elementary		2293 E. Crabtree Ave.	Porterville, CA 93257-5225
5F	School District, American Union Elementary		2801 W. Adams Ave.	Fresno, CA 93706-9601
5F	School District, Atwater Elementary		1401 Broadway Ave.	Atwater, CA 95301-
5F	School District, Bakersfield City Elementary		1300 Baker St.	Bakersfield, CA 93305-4326
5F	School District, Beardsley Elementary		1001 Roberts Lane	Bakersfield, CA 93308-4503
5F	School District, Buena Vista Elementary		21660 Road 60	Tulare, CA 93274-9470
5F	School District, Burton Elementary		264 N. Westwood St.	Porterville, CA 93257-2542
5F	School District, Central Unified		4605 N. Polk Ave.	Fresno, CA 93722-5334
5F	School District, Central Union Elementary		15783 18th Ave.	Lemoore, CA 93245-9742
5F	School District, Citrus South Tule Elementary		31374 Success Valley Dr.	Porterville, CA 93257-9638
5F	School District, Clay Joint Elementary		12449 S. Smith Ave.	Kingsburg, CA 93631-9717
5F	School District, Clovis Unified		1450 Herndon Ave.	Clovis, CA 93611-0567
5F	School District, Delhi Unified		9715 Hinton Ave.	Delhi, CA 95315-0338
5F	School District, Delta View Joint Union Elementary		1201 Lacey Blvd.	Hanford, CA 93230-9306
5F	School District, Edison Elementary		9600 Eucalyptus Dr.	Bakersfield, CA 93306-6781
5F	School District, Exeter Union Elementary		134 South E St.	Exeter, CA 93221-
5F	School District, Exeter Union High		134 South E St.	Exeter, CA 93221-
5F	School District, Fairfax Elementary		1500 S. Fairfax Road	Bakersfield, CA 93307-3151
5F	School District, Farmersville Unified		281 S. Farmersville Blvd.	Farmersville, CA 93223-1833
5F	School District, Fresno Unified		Ed. Cntr., Tulare & M Sts	Fresno, CA 93721-
5F	School District, Fruitvale Elementary		7311 Rosedale Hwy.	Bakersfield, CA 93308-5738
5F	School District, General Shafter Elementary		1316 Shafter Road	Bakersfield, CA 93313-9766
5F	School District, Golden Valley Unified		37479 Avenue 12	Madera, CA 93638-
5F	School District, Greenfield Union Elementary		1624 Fairview Road	Bakersfield, CA 93307-5512
5F	School District, Hanford Elementary		714 N. White St.	Hanford, CA 93232-
5F	School District, Hanford Joint Union High		120 E. Grangeville Road	Hanford, CA 93230-3067
5F	School District, Hope Elementary		816 W. Teapot Dome Ave.	Porterville, CA 93257-9465
5F	School District, Island Union Elementary		7799 21st Ave.	Lemoore, CA 93245-9673
5F	School District, Kern Union High		5801 Sundale Ave	Bakersfield, CA 93309-2924
5F	School District, Kings Canyon Joint Unified		675 W. Manning Ave.	Reedley, CA 93654-2427
5F	School District, Kings River Union Elementary		3961 Ave. 400	Kingsburg, CA 93631-9660
5F	School District, Kings River-Hardwick Union Elementary		10300 Excelsior Ave.	Hanford, CA 93230-9108
5F	School District, Kingsburg Joint Union Elementary		1310 Stroud Ave.	Kingsburg, CA 93631-1000
5F	School District, Kingsburg Joint Union High		1900 18th Ave.	Kingsburg, CA 93631-1629
5F	School District, Kit Carson Union Elementary		9895 Seventh Ave.	Hanford, CA 93230-8802
5F	School District, Lakeside Union Elementary		9100 Jersey Ave.	Hanford, CA 93230-9560
5F	School District, Lakeside Union School		14535 Old River Rd.	Bakersfield, CA 93311-9756
5F	School District, Lemoore Union Elementary		100 Vine St.	Lemoore, CA 93245-3418

Region	Agency	Facility	Address	City, State, ZIP
5F	School District, Lemoore Union High		101 E. Bush St.	Lemoore, CA 93245-3601
5F	School District, Liberty Elementary		11535 Ave. 264	Visalia, CA 93277-9483
5F	School District, Los Banos Unified		1717 S. 11th St.	Los Banos, CA 93635-4800
5F	School District, Madera Unified		1902 Howard Road	Madera, CA 93637-5123
5F	School District, McSwain Union Elementary		926 N. Scott Road	Merced, CA 95340-8893
5F	School District, Merced City Elementary		444 W. 23rd St.	Merced, CA 95340-3723
5F	School District, Merced Union High		Olive Ave. & G St.	Merced, CA 95344-0147
5F	School District, Monroe Elementary		11842 S. Chestnut Ave.	Fresno, CA 93725-9618
5F	School District, Norris Elementary		6940 Calloway Dr.	Bakersfield, CA 93312-9005
5F	School District, Oak Valley Union Elementary		24500 Road 68	Tulare, CA 93274-9607
5F	School District, Orange Center Elementary		3530 S. Cherry Ave.	Fresno, CA 93706-5615
5F	School District, Outside Creek Elementary		26452 Road 164	Visalia, CA 93292-9740
5F	School District, Pacific Union Elementary		2065 E. Bowles Ave.	Fresno, CA 93725-9630
5F	School District, Palo Verde Union Elementary		9637 Ave. 196	Tulare, CA 93274-9529
5F	School District, Panama Buena Vista Union Elementary		4200 Ashe Road	Bakersfield, CA 93313-2029
5F	School District, Pioneer Union Elementary		8810 14th Ave.	Hanford, CA 93230-9677
5F	School District, Plainsburg Union Elementary		3708 S. Plainsburg Road	Merced, CA 95340-9557
5F	School District, Pleasant View Elementary		14004 Road 184	Porterville, CA 93257-9214
5F	School District, Porterville Unified		600 West Grand Ave.	Porterville, CA 93257-2029
5F	School District, Rio Bravo-Greeley Union Elementary		6521 Enos Lane	Bakersfield, CA 93312-8721
5F	School District, Rockford Elementary		14983 Road 208	Porterville, CA 93257-9318
5F	School District, Rosedale Union Elementary		2553 Old Farm Road	Bakersfield, CA 93312-3531
5F	School District, Selma Unified		3036 Thompson Ave.	Selma, CA 93662-2497
5F	School District, Standard Elementary		1200 N. Chester Ave.	Bakersfield, CA 93308-3521
5F	School District, Stone Corral Elementary		15590 Ave. 383	Visalia, CA 93292-9545
5F	School District, Strathmore Union Elementary		23024 Ave. 198	Strathmore, CA 93267-0247
5F	School District, Strathmore Union High		22568 Ave. 196	Strathmore, CA 93267-0114
5F	School District, Sundale Union Elementary		13990 Ave. 240	Tulare, CA 93274-9563
5F	School District, Sunnyside Union Elementary		21644 Ave. 196	Strathmore, CA 93267-9795
5F	School District, Tulare City Elementary		600 N. Cherry Ave.	Tulare, CA 93274-2920
5F	School District, Tulare Joint Union High		426 N. Blackstone	Tulare, CA 93274-4449
5F	School District, Vineland Elementary		14713 Weedpatch Hwy.	Bakersfield, CA 93307-9653
5F	School District, Visalia Unified		5000 W Cypress Ave.	Visalia, CA 93277-8300
5F	School District, Washington Colony Elementary		130 E. Lincoln Ave.	Fresno, CA 93706-6043
5F	School District, Washington Union High		6041 S. Elm Ave.	Fresno, CA 93706-6099
5F	School District, Waukena Joint Union Elementary		19113 Road 28	Tulare, CA 93274-
5F	School District, Weaver Union Elementary		3076 E. Childs Ave.	Merced, CA 95340-9583
5F	School District, West Fresno Elementary		2888 S. Ivy St.	Fresno, CA 93706-5513
5F	School District, West Park Elementary		2695 S. Valentine Ave.	Fresno, CA 93706-9042
5F	School District, Woodville Elementary		16541 Road 168	Porterville, CA 93257-9205
5F	University of California	University of California, Merced	1170 W. Olive Avenue Suite I	Merced, CA 95348-1959
5F	Veteran Affairs	VA Central California Health Care System	2615 E. Clinton Avenue	Fresno, CA 93703

Region	Agency	Facility	Address	City, State, ZIP
5R	California Community Colleges	Shasta College	11555 Old Oregon Trail PO Box 496006	Redding, CA 96049-6006
5R	California State University	California State University Chico	400 West First Street	Chico, CA 95929
5R	District Agricultural Association	Shasta County Fairgrounds	1890 Briggs Street	Anderson, CA
5R	District Agricultural Association	Silver Dollar Fairgrounds	2357 Fair Street	Chico, CA
5R	School District, Anderson Union High		1471 Ferry St.	Anderson, CA 96007-3313
5R	School District, Cascade Union Elementary		1645 W. Mill St.	Anderson, CA 96007-3226
5R	School District, Chico Unified		1163 E. Seventh St.	Chico, CA 95928-5903
5R	School District, Columbia Elementary		10142 Old Oregon Trail Road	Redding, CA 96003-7995
5R	School District, Durham Unified		9420 Putney Dr.	Durham, CA 95938-0300
5R	School District, Enterprise Elementary		1155 Mistletoe Lane	Redding, CA 96002-0749
5R	School District, Gateway Unified		4411 Mountain Lakes Blvd.	Redding, CA 96003-1446
5R	School District, Grant Elementary		8835 Swasey Dr.	Redding, CA 96001-9722
5R	School District, Happy Valley Union Elementary		16300 Cloverdale Road	Anderson, CA 96007-
5R	School District, Pacheco Union Elementary		7433 Pacheco Rd	Redding, CA 96002-4603
5R	School District, Redding Elementary		5885 E. Bonnyview Road	Redding, CA 96099-2418
5R	School District, Shasta Union High		2200 Eureka way Suite B	Redding, CA 96001-
5S	California Air National Guard	162nd Combat Communications Group	3900 Roseville Road	North Highlands, CA 95660-5794
5S	California Community Colleges	American River College	4700 College Oak Drive	Sacramento, CA 95841-4286
5S	California Community Colleges	Cosumnes River College	8401 Center Parkway	Sacramento, CA 95823-5799
5S	California Community Colleges	Modesto Junior College	435 College Avenue	Modesto, CA 95350-5800
5S	California Community Colleges	Sacramento City College	3835 Freeport Boulevard	Sacramento, CA 95822-1386
5S	California Community Colleges	San Joaquin Delta College	5151 Pacific Avenue	Stockton, CA 95207-6370
5S	California Community Colleges	Sierra College	5000 Rocklin Road	Rocklin, CA 95677-3397
5S	California Community Colleges	Yuba College	2088 North Beale Road	Marysville, CA 95901-7699
5S	California State University	California State University Sacramento	6000 J Street	Sacramento, CA 95819
5S	California State University	California State University Stanislaus	801 West Monte Vista Ave	Turlock, CA 95382
5S	California Youth Authority	Northern California Youth Correctional Center	7650 Newcastle Rd	Stockton, CA
5S	California Youth Authority	Northern Youth Correctional Reception Center and Clinic	3001 Ramona Ave	Sacramento, CA
5S	Corrections, Dept of	California Medical Facility	1600 California Dr	Vacaville, CA 95696-2000
5S	Corrections, Dept of	CSP, Sacramento	PO Box 29	Represa, CA 95671
5S	Corrections, Dept of	CSP, Solano County	2100 Peabody Road	Vacaville, CA 95696-4000
5S	Corrections, Dept of	Deuel Vocational Institution	23500 Kasson Road	Tracy, CA 95378-0004
5S	Corrections, Dept of	Folsom State Prison	300 Prison Road	Represa, CA 95671
5S	Corrections, Dept of	Northern California Women's Facility	7150 East Arch Road	Stockton, CA 95213-9006
5S	Defense, Department of	Beale Air Force Base	9 CES/CEV 6601 B Street	Beale AFB, CA 95903-1708
5S	Defense, Department of	Defense Distribution San Joaquin	PO Box 960001	Stockton, CA 95296-0002
5S	Defense, Department of	McClellan Air Force Base	3237 Peacekeeper Way Suite 1	McClellan AFB, CA 95652-1044
5S	Defense, Department of	Stockton Naval Communications Station	305 Fyffe Ave	Stockton, CA 95203-4920
5S	District Agricultural Association	Contra Costa County Fairgrounds	1201 West 10th Street	Antioch, CA
5S	District Agricultural Association	Dixon May Fair	655 S First Street	Dixon, CA
5S	District Agricultural Association	Gold Country Fairgrounds	1273 High Street	Auburn, CA
5S	District Agricultural Association	Lake County Fairgrounds	401 Martin Street	Lakeport, CA

Region	Agency	Facility	Address	City, State, ZIP
5S	District Agricultural Association	Nevada County Fairgrounds	11228 McCourtney Road	Grass Valley, CA
5S	District Agricultural Association	San Joaquin County Fairgrounds	1658 S Airport Way	Stockton, CA
5S	District Agricultural Association	Stanislaus County Fairgrounds	900 N Broadway	Turlock, CA
5S	District Agricultural Association	Sutter County Fairgrounds	442 Franklin Ave	Yuba City, CA
5S	District Agricultural Association	Yolo County Fairgrounds	Hwy 113 & Gibson Rd	Woodland, CA
5S	Exposition & State Fair, California	California Exposition & State Fair	1600 Exposition Blvd	Sacramento, CA
5S	School District, Ackerman Elementary		13777 Bowman Road	Auburn, CA 95603-3147
5S	School District, Antioch Unified		510 G St.	Antioch, CA 94509-0904
5S	School District, Arcohe Union Elementary		11755 Ivie Road	Herald, CA 95638-0093
5S	School District, Auburn Union Elementary		55 College Way	Auburn, CA 95603-
5S	School District, Brentwood Union Elementary		255 Guthrie Lane	Brentwood, CA 94513-1610
5S	School District, Center Joint Unified		8408 Watt Ave.	Antelope, CA 95843-9116
5S	School District, Ceres Unified		2503 Lawrence St	Ceres, CA 95307-0307
5S	School District, Chatom Union Elementary		7201 Clayton Ave.	Turlock, CA 95380-9352
5S	School District, Chicago Park Elementary		15725 Mt Olive Road	Grass Valley, CA 95945-7906
5S	School District, Clear Creek Elementary		17700 McCourtney Road	Grass Valley, CA 95949-7636
5S	School District, Davis Joint Unified		526 B St.	Davis, CA 95616-3811
5S	School District, Del Paso Heights Elementary		3780 Rosin Court, Suite 270	Sacramento, CA 95834-1646
5S	School District, Dixon Unified		305 N. Almond St.	Dixon, CA 95620-2702
5S	School District, Dry Creek Joint Elementary		9707 Cook Riolo Road	Roseville, CA 95747-9793
5S	School District, El Dorado Union High		4675 Missouri Flat Road	Placerville, CA 95619-
5S	School District, Elk Grove Unified		9510 Elk Grove-Florin Road	Elk Grove, CA 95624-1801
5S	School District, Elverta Joint Elementary		8920 Elwyn Ave.	Elverta, CA 95626-9217
5S	School District, Empire Union Elementary		116 N. McClure Road	Modesto, CA 95357-1329
5S	School District, Eureka Union Elementary		5477 Eureka Road	Granite Bay, CA 95746-8808
5S	School District, Folsom-Cordova Unified		125 East Bidwell St.	Folsom, CA 95630-3241
5S	School District, Franklin Elementary		332 N. Township Road	Yuba City, CA 95993-9629
5S	School District, Galt Joint Union Elementary		1018 C St. Suite 210	Galt, CA 95632-
5S	School District, Galt Joint Union High		145 N. Lincoln Way	Galt, CA 95632-1720
5S	School District, Gold Oak Union Elementary		3171 Pleasant Valley Road	Placerville, CA 95667-7836
5S	School District, Gold Trail Union Elementary		1575 Old Ranch Road	Placerville, CA 95667-8929
5S	School District, Grant Joint Union High		1333 Grand Ave.	Sacramento, CA 95838-3697
5S	School District, Grass Valley Elementary		10840 Gilmore Way	Grass Valley, CA 95945-5409
5S	School District, Hart-Ransom Union Elementary		3920 Shoemake Ave.	Modesto, CA 95358-8577
5S	School District, Holt Union Elementary		1545 S. Holt Road	Stockton, CA 95206-9618
5S	School District, Hughson Unified		7419 East Whitmore Ave.	Hughson, CA 95326-
5S	School District, Jefferson Elementary		7500 W. Linne Road	Tracy, CA 95376-9278
5S	School District, Keyes Union Elementary		5465 Seventh St.	Keyes, CA 95328-0549
5S	School District, Knightsen Elementary		1923 Delta Road	Knightsen, CA 94548-0265
5S	School District, Lakeport Unified		100 Lange St.	Lakeport, CA 95453-3297
5S	School District, Lammersville Elementary		16555 W. Von Sosten Road	Tracy, CA 95376-7220
5S	School District, Liberty Union High		20 Oak St.	Brentwood, CA 94513-1379

Region	Agency	Facility	Address	City, State, ZIP
5S	School District, Lincoln Unified		2010 W. Swain Road	Stockton, CA 95207-4055
5S	School District, Lodi Unified		1305 E. Vine St.	Lodi, CA 95240-3148
5S	School District, Loomis Union Elementary		3290 Humphrey Road	Loomis, CA 95650-9043
5S	School District, Manteca Unified		2901 E. Louise Ave.	Manteca, CA 95336-0032
5S	School District, Marysville Joint Unified		1919 B St.	Marysville, CA 95901-3731
5S	School District, Modesto City Elementary		426 Locust St.	Modesto, CA 95351-2631
5S	School District, Modesto City High		426 Locust St.	Modesto, CA 95351-2631
5S	School District, Mother Lode Union Elementary		3783 Forni Road	Placerville, CA 95667-6207
5S	School District, Natomas Unified		1515 Sports Dr., Suite 1	Sacramento, CA 95834-1905
5S	School District, Nevada Joint Union High		11645 Ridge Road	Grass Valley, CA 95945-5024
5S	School District, New Jerusalem Elementary		31400 S. Koster Road	Tracy, CA 95376-8824
5S	School District, North Sacramento Elementary		670 Dixieanne Ave.	Sacramento, CA 95815-3023
5S	School District, Oakdale Joint Unified		168 S. Third Ave.	Oakdale, CA 95361-3935
5S	School District, Oakley Union Elementary		91 Mercedes Lane	Oakley, CA 94561-
5S	School District, Paradise Elementary		3361 California Ave.	Modesto, CA 95358-8337
5S	School District, Patterson Joint Unified		200 N. Seventh St.	Patterson, CA 95363-0547
5S	School District, Placer Union High		13000 New Airport Road	Auburn, CA 95604-5048
5S	School District, Placerville Union Elementary		1032 Thompson Way	Placerville, CA 95667-5713
5S	School District, Pleasant Ridge Union Elementary		22580 Kingston Lane	Grass Valley, CA 95949-7706
5S	School District, Plumas Elementary		2743 Plumas-Arboga Road	Marysville, CA 95901-9638
5S	School District, Rio Linda Union Elementary		627 L St.	Rio Linda, CA 95673-3430
5S	School District, Ripon Unified		304 N. Acacia Ave.	Ripon, CA 95366-2404
5S	School District, River Delta Joint Unified		445 Montezuma	Rio Vista, CA 94571-1651
5S	School District, Riverbank Unified		6715 7th St.	Riverbank, CA 95367-2345
5S	School District, Robla Elementary		5248 Rose St.	Sacramento, CA 95838-1633
5S	School District, Rocklin Unified		5035 Meyers St.	Rocklin, CA 95677-2811
5S	School District, Roseville City Elementary		1000 Darling Way	Roseville, CA 95678-4341
5S	School District, Roseville Joint Union High		1750 Cirby Way	Roseville, CA 95661-5520
5S	School District, Sacramento City Unified		520 Capitol Mall	Sacramento, CA 95812-2271
5S	School District, Salida Union Elementary		5250 Tamara Way	Salida, CA 95368-9226
5S	School District, San Juan Unified		3738 Walnut Ave.	Carmichael, CA 95609-0477
5S	School District, Shiloh Elementary		6633 Paradise Road	Modesto, CA 95358-9253
5S	School District, Stanislaus Union Elementary		3601 Carver Road	Modesto, CA 95356-0926
5S	School District, Stockton City Unified		701 N. Madison St.	Stockton, CA 95202-1634
5S	School District, Sylvan Union Elementary		605 Sylvan Ave.	Modesto, CA 95350-1517
5S	School District, Tracy Joint Unified		315 East Eleventh St.	Tracy, CA 95376-4095
5S	School District, Turlock Joint Elementary		1574 E Canal Dr.	Turlock, CA 95381-1105
5S	School District, Turlock Joint Union High		1574 E Canal Dr.	Turlock, CA 95381-1105
5S	School District, Union Hill Elementary		10879 Bartlett Dr.	Grass Valley, CA 95945-8730
5S	School District, Vacaville Unified		751 School St.	Vacaville, CA 95688-3945
5S	School District, Washington Unified		930 West Acres Road	West Sacramento, CA 95691-3224
5S	School District, Western Placer Unified		810 J Street	Lincoln, CA 95648-1825

Region	Agency	Facility	Address	City, State, ZIP
5S	School District, Woodland Joint Unified		630 Cottonwood St.	Woodland, CA 95695-3615
5S	School District, Yuba City Unified		750 Palora Ave.	Yuba City, CA 95991-3627
5S	University of California	The University of California, Davis	One Shields Avenue	Davis, CA 95616
5S	Veteran Affairs	Sacramento Medical Center @ Mather	10535 Hospital Way	Sacramento, CA 95655
6A	School District, Lake Tahoe Unified		1021 Al Tahoe Blvd.	South Lake Tahoe, CA 96150-4426
6B	Bureau of Prisons	FCI Victorville	PO Box 5400	Adelanto, CA 92301
6B	California Community Colleges	Antelope Valley College	3041 West Avenue K	Lancaster, CA 93536-5426
6B	California Community Colleges	Victor Valley College	18422 Bear Valley Road	Victorville, CA 92392-5849
6B	Corrections, Dept of	CSP, Los Angeles County	44750 60th Street West	Lancaster, CA 93536-7620
6B	Defense, Department of	Production Flight Test Installation, Air Force Plant 42	2503 East Avenue P	Palmdale, CA 93550-2196
6B	District Agricultural Association	San Bernardino County Fairgrounds	14800 Seventh Street	Victorville, CA
6B	School District, Antelope Valley Union High		44811 North Sierra Hwy.	Lancaster, CA 93534-3226
6B	School District, Apple Valley Unified		22974 Bear Valley Road	Apple Valley, CA 92308-7423
6B	School District, Eastside Union Elementary		6742 E. Avenue H	Lancaster, CA 93535-7849
6B	School District, Hesperia Unified		9144 Third St.	Hesperia, CA 92345-3643
6B	School District, Lancaster Elementary		44711 N. Cedar Ave.	Lancaster, CA 93534-3210
6B	School District, Palmdale Elementary		39139 10th St. East.	Palmdale, CA 93550-3419
6B	School District, Victor Elementary		15579 Eighth St.	Victorville, CA 92392-3348
6B	School District, Victor Valley Union High		16350 Mojave Dr.	Victorville, CA 92392-3655
6B	School District, Westside Union Elementary		46809 N. 70th St. West	Lancaster, CA 93535-7836
6B	School District, Wilsona Elementary		18050 East Ave. O	Palmdale, CA 93591-3800
7	California Community Colleges	College of the Desert	43 500 Monterey Avenue	Palm Desert, CA 92260-2499
7	School District, Banning Unified		161 W. Williams St.	Banning, CA 92220-4746
7	School District, Brawley Elementary		261 D St.	Brawley, CA 92227-1912
7	School District, Brawley Union High		480 N. Imperial Ave.	Brawley, CA 92227-1625
7	School District, Calexico Unified		901 Andrade Ave.	Calexico, CA 92232-0792
7	School District, Central Union High		1001 Brighton Ave.	El Centro, CA 92243-3110
7	School District, Coachella Valley Unified		87-225 Church St.	Thermal, CA 92274-0847
7	School District, Desert Sands Unified		47-950 Dune Palms Rd	La Quinta, CA 92253-4000
7	School District, El Centro Elementary		1256 Broadway	El Centro, CA 92243-2317
7	School District, Imperial Unified		219 North E Street	Imperial, CA 92254
7	School District, Palm Springs Unified		333 S. Farrell Dr.	Palm Springs, CA 92262-7905
8	California Air National Guard	163rd Air Refueling Wing	1620 Graeber Street, #6	March Field, CA 92518-1614
8	California Army National Guard	Los Alamitos AFRC	Lexington Dr	Los Alamitos, CA 90720
8	California Community Colleges	Chaffey College	5885 Haven Avenue	Rancho Cucamonga, CA 91737-3002
8	California Community Colleges	Coastline Community College	11460 Warner Avenue	Fountain Valley, CA 92708-2597
8	California Community Colleges	Crafton Hills College	11711 Sand Canyon Road	Yucaipa, CA 92399-1799
8	California Community Colleges	Cypress College	9200 Valley View Street	Cypress, CA 90630-5897
8	California Community Colleges	Fullerton College	321 East Chapman Avenue	Fullerton, CA 92832-2095
8	California Community Colleges	Golden West College	15744 Goldenwest Street	Huntington Beach, CA 92647 0592
8	California Community Colleges	Irvine Valley College	5500 Irvine Center Drive	Irvine, CA 92720-4399

Region	Agency	Facility	Address	City, State, ZIP
8	California Community Colleges	Mt. San Jacinto College	1499 North State Street	San Jacinto, CA 92583-2399
8	California Community Colleges	Orange Coast College	2701 Fairview Road PO Box 5005	Costa Mesa, CA 92628-5005
8	California Community Colleges	Riverside Community College	4800 Magnolia Avenue	Riverside, CA 92506-1293
8	California Community Colleges	San Bernardino Valley College	701 S. Mt. Vernon Avenue	San Bernardino, CA 92410-2798
8	California Community Colleges	Santa Ana College	1530 W. 17th Street	Santa Ana, CA 92706-3398
8	California Community Colleges	Santiago Canyon College	8045 E. Chapman Avenue	Orange, CA 92869-4512
8	California State University	California State University Fullerton	P.O. Box 34080	Fullerton, CA 92834
8	California State University	California State University San Bernardino	5500 University Parkway	San Bernardino, CA 92407
8	California Youth Authority	Heman G. Stark Youth Correctional Facility	15180 Eucild Ave	Chino, CA
8	Corrections, Dept of	California Institution for Men	14901 Central Avenue	Chino, CA 91710
8	Corrections, Dept of	California Institution for Women	16756 Chino-Corona Road	Corona, CA 92878-6000
8	Corrections, Dept of	California Rehabilitation Center	5th & Western	Norco, CA 91760
8	Defense, Department of	March Air Reserve Base	2145 Graeber St, Ste 117	March ARB, CA 92518-1671
8	Defense, Department of	Naval Warfare Assessment Sation	2300 Fifth St	Norco, CA 91760
8	Defense, Department of	Seal Beach Naval Weapons Station	800 Seal Beach Blvd	Seal Beach, CA 90740-5000
8	Developmental Services, Dept of.	Fairview Developmental Center	2501 Harbor Blvd	Cotsa Mesa, CA
8	District Agricultural Association	Orange County Fairgrounds	88 Fair Drive	Costa Mesa, CA
8	Education, Dept of	Calif. School for the Deaf	3044 Horace St.	Riverside, CA 92506-4498
8	Mental Health, Dept of	Patton State Hospital	3102 e Highland Ave	Patton, CA
8	School District, Alta Loma Elementary		9340 Baseline Road	Alta Loma, CA 91701-5821
8	School District, Alvord Unified		10365 Keller Ave	Riverside, CA 92505-1349
8	School District, Anaheim Elementary		1001 S. East St.	Anaheim, CA 92805-5749
8	School District, Anaheim Union High		501 Crescent Way	Anaheim, CA 92803-3520
8	School District, Bear Valley Unified		42271 Moonridge Road	Big Bear Lake, CA 92315-1529
8	School District, Beaumont Unified		500 Grace Ave.	Beaumont, CA 92223-0187
8	School District, Brea-Olinda Unified		Number One Civic Cntr.	Brea, CA 92821-9990
8	School District, Buena Park Elementary		6885 Orangethorpe Ave.	Buena Park, CA 90620-1348
8	School District, Central Elementary		10601 Church St., Suite 112	Rancho Cucamonga, CA 91730-6863
8	School District, Centralia Elementary		6625 la Palma Ave.	Buena Park, CA 90620-2859
8	School District, Chaffey Joint Union		211 W. Fifth St.	Ontario, CA 91762-1698
8	School District, Chino Valley Unified		5130 Riverside Dr.	Chino, CA 91710-4130
8	School District, Colton Joint Unified		1212 Valencia Dr.	Colton, CA 92324-1798
8	School District, Corona-Norco Unified		2820 Clark Ave.	Norco, CA 91760-1903
8	School District, Cucamonga Elementary		8776 Archibald Ave.	Rancho Cucamonga, CA 91730-4698
8	School District, Cypress Elementary		9470 Moody St.	Cypress, CA 90630-2919
8	School District, Etiwanda Elementary		6061 East Ave.	Etiwanda, CA 91739-0248
8	School District, Fontana Unified		9680 Citrus Ave.	Fontana, CA 92335-5571
8	School District, Fountain Valley Elementary		17210 Oak St.	Fountain Valley, CA 92708-3405
8	School District, Fullerton Elementary		1401 W. Valencia Dr.	Fullerton, CA 92633-3938
8	School District, Fullerton Joint Union High		1051 W. Bastanchury Road	Fullerton, CA 92833-2247

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8	School District, Garden Grove Unified		10331 Stanford Ave.	Garden Grove, CA 92840-6351
8	School District, Hemet Unified		2350 W. Latham Ave.	Hemet, CA 92545-3632
8	School District, Huntington Beach City Elementary		20451 Cramer Lane	Huntington Beach, CA 92646-0071
8	School District, Huntington Beach Union High		10251 Yorktown Ave.	Huntington Beach, CA 92646-2999
8	School District, Irvine Unified		5050 Barranca Parkway	Irvine, CA 92604-4652
8	School District, Jurupa Unified		3924 Riverview Dr.	Riverside, CA 92509-6611
8	School District, La Habra City Elementary		500 N. Walnut St.	La Habra, CA 90633-0307
8	School District, Lake Elsinore Unified		545 Chaney St.	Lake Elsinore, CA 92530-2723
8	School District, Los Alamitos Unified		10293 Bloomfield St.	Los Alamitos, CA 90720-2264
8	School District, Magnolia Elementary		2705 W. Orange Ave.	Anaheim, CA 92804-3203
8	School District, Menifee Union Elementary		30205 Menifee Road	Menifee, CA 92584-8109
8	School District, Moreno Valley Unified		25634 Alessandro Blvd.	Moreno Valley, CA 92553-4306
8	School District, Mountain View Elementary		2585 S. Archibald Ave.	Ontario, CA 91761-8146
8	School District, Newport-Mesa Unified		2985-A Bear St.	Costa Mesa, CA 92626-
8	School District, Nuview Union Elementary		29780 Lakeview Ave.	Nuevo, CA 92567-9261
8	School District, Ocean View Elementary		17200 Pinehurst Lane	Huntington Beach, CA 92647-5569
8	School District, Ontario-Montclair Elementary		950 West D St.	Ontario, CA 91762-3026
8	School District, Orange Unified		1401 N. Handy St.	Orange, CA 92856-
8	School District, Perris Elementary		143 E. First St.	Perris, CA 92570-2113
8	School District, Perris Union High		155 E. Fourth St.	Perris, CA 92570-2124
8	School District, Placentia-Yorba Linda Unified		1301 E. Orangethorpe Ave.	Placentia, CA 92670-5302
8	School District, Redlands Unified		20 W. Lugonia	Redlands, CA 92373-1508
8	School District, Rialto Unified		182 E. Walnut Ave.	Rialto, CA 92376-3530
8	School District, Riverside Unified		3380 14th St.	Riverside, CA 92516-2800
8	School District, Romoland Elementary		25900 Leon Road	Homeland, CA 92548-
8	School District, San Bernardino City Unified		777 North F St.	San Bernardino, CA 92410-3017
8	School District, San Jacinto Unified		2045 S. San Jacinto Ave.	San Jacinto, CA 92583-5626
8	School District, Santa Ana Unified		1601 E. Chestnut Ave.	Santa Ana, CA 92701-6322
8	School District, Savanna Elementary		1330 S. Knott Ave.	Anaheim, CA 92804-4711
8	School District, Tustin Unified		300 South C St.	Tustin, CA 92780-3695
8	School District, Upland Unified		390 N. Euclid Ave.	Upland, CA 91785-1239
8	School District, Val Verde Unified		975 E. Morgan Road	Perris, CA 92571-3103
8	School District, Westminster Elementary		14121 Cedarwood Ave.	Westminster, CA 92683-4482
8	School District, Yucaipa-Calimesa Jt. Unified		12797 Third St.	Yucaipa, CA 92399-4544
8	University of California	University of California, Irvine		Irvine, CA 92697
8	University of California	University of California, Riverside	900 University Avenue	Riverside, CA 92521
8	Veteran Affairs	Jerry L. Pettis Memorial VA Medical Center	11201 Benton Street	Loma Linda, CA 92357
9	Bureau of Prisons	MCC San Diego	808 Union Street	San Diego, CA 92101-6078
9	California Community Colleges	Cuyamaca College	900 Rancho San Diego Parkway	El Cajon, CA 92019-4304
9	California Community Colleges	Grossmont College	8800 Grossmont College Drive	El Cajon, CA 92020-1799
9	California Community Colleges	MiraCosta College	1 Barnard Drive	Oceanside, CA 92056-3899
9	California Community Colleges	Palomar College	1140 West Mission Road	San Marcos, CA 92069-1487

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9	California Community Colleges	Saddleback College	28000 Marguerite Parkway	Mission Viejo, CA 92692-3699
9	California Community Colleges	San Diego City College	1313 12th Avenue	San Diego, CA 92101-4787
9	California Community Colleges	San Diego Mesa College	7250 Mesa College Drive	San Diego, CA 92111-4996
9	California Community Colleges	San Diego Miramar College	10440 Black Mountain Road	San Diego, CA 92126-2999
9	California Community Colleges	Southwestern College	900 Otay Lakes Road	Chula Vista, CA 91910-7299
9	California State University	California State University San Marcos	333 S. Twin Oaks Valley Rd.	San Marcos, CA 92096
9	California State University	San Diego State University	5500 Campanile Drive	San Diego, CA 92182
9	Corrections, Dept of	R J Donovan Correctional Facility at Rock Mountain	480 Alta Road	San Diego, CA 92179
9	Defense, Department of	Camp Pendleton Marine Corps Base	PO Box 555010	Camp Pendleton, CA 92055-5010
9	Defense, Department of	Fleet & Industrial Supply Center, Pt. Loma	937 N Harbor Dr	San Diego, CA 92132-0002
9	Defense, Department of	Fleet and Industrial Supply Center, Broadway Complex	33000 Nixie Way Bldg 50, Suite 326	San Diego, CA 92147-5110
9	Defense, Department of	Fleet Anti-Submarine Warfare Training Center, Pacific	33000 Nixie Way Bldg 50, Suite 326	San Diego, CA 92147-5110
9	Defense, Department of	Fleet Combat Training Center, Pacific	33000 Nixie Way Bldg 50, Suite 326	San Diego, CA 92147-5110
9	Defense, Department of	Magnetic Silencing Facility	33000 Nixie Way Bldg 50, Suite 326	San Diego, CA 92147-5110
9	Defense, Department of	Miramar Marine Corps Air Station	PO Box 452013	San Diego, CA 92145
9	Defense, Department of	Mission Gorge Recreational Facility	33000 Nixie Way Bldg 50, Suite 326	San Diego, CA 92147-5110
9	Defense, Department of	Naval Air Station, North Island	33000 Nixie Way Bldg 50, Suite 326	San Diego, CA 92147-5110
9	Defense, Department of	Naval Amphibious Base, Coronado	33000 Nixie Way Bldg 50, Suite 326	San Diego, CA 92147-5110
9	Defense, Department of	Naval Medical Center, San Diego	34800 Bob Wilson Drive	San Diego, CA 92134
9	Defense, Department of	Naval Outlying Landing Field, Imperial Beach	33000 Nixie Way, Building 50, Suite 326	San Diego, CA 92147-5110
9	Defense, Department of	Naval Radio Receiving Facility	33000 Nixie Way, Building 50, Suite 326	San Diego, CA 92147-5110
9	Defense, Department of	Naval Station, San Diego	3455 Senn Rd	San Diego, CA 92136-5084
9	Defense, Department of	Naval Submarine Base, San Diego	140 Sylvester Rd	San Diego, CA 92106-5200
9	Defense, Department of	Naval Weapon Station, Fallbrook	700 Ammunition Rd	Fallbrook, CA 92028-3187
9	Defense, Department of	Navy Public Works Center, Taylor Street Facility	33000 Nixie Way Bldg 50, Suite 326	San Diego, CA 92147-5110
9	Defense, Department of	San Diego Marine Corps Recruit Depot	1600 Henderson Ave #120	San Diego, CA 92140-5001
9	Defense, Department of	Space and Naval Warfare Systems Center, Old Town Cam		San Diego, CA
9	Defense, Department of	Space and Naval Warfare Systems Center, Point Loma Ca		San Diego, CA
9	District Agricultural Association	San Diego County Fairgrounds	2260 Jimmy Durante Blvd	Del Mar, CA
9	School District, Alpine Union Elementary		1323 Administration Way	Alpine, CA 91901-2104
9	School District, Bonsall Union Elementary		31505 Old River Road	Bonsall, CA 92003-5112
9	School District, Cajon Valley Union Elementary		189 Roanoke Road	El Cajon, CA 92022-1007
9	School District, Capistrano Unified		32972 Calle Perfecto	San Juan Capistrano, CA 92675-4706
9	School District, Carlsbad Unified		801 Pine Ave.	Carlsbad, CA 92008-2430
9	School District, Chula Vista Elementary		84 East J St.	Chula Vista, CA 91910-6115
9	School District, Coronado Unified		555 D Ave.	Coronado, CA 92118-1714
9	School District, Dehesa Elementary		4612 Dehesa Road	El Cajon, CA 92019-2922
9	School District, Del Mar Union Elementary		225 Ninth St.	Del Mar, CA 92014-2716
9	School District, Encinitas Union Elementary		101 South Rancho Santa Fe Road	Encinitas, CA 92024-4308
9	School District, Escondido Union Elementary		1330 E. Grand Ave.	Escondido, CA 92027-3099
9	School District, Escondido Union High		302 N. Midway Dr.	Escondido, CA 92027-2741

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9	School District, Fallbrook Union Elementary		321 N. Iowa St.	Fallbrook, CA 92088-0698
9	School District, Fallbrook Union High		S. Mission Road & Stage Coach L	Fallbrook, CA 92088-0368
9	School District, Grossmont Union High		1100 Murray Dr.	La Mesa, CA 91944-1043
9	School District, Jamul-Dulzura Union Elementary		14581 Lyons Valley Road	Jamul, CA 91935-3324
9	School District, Julian Union Elementary		1704 Hwy. 78	Julian, CA 92036-0337
9	School District, Julian Union High		1656 Hwy. 78	Julian, CA 92036-0417
9	School District, La Mesa-Spring Valley		4750 Date Ave.	La Mesa, CA 91941-5214
9	School District, Laguna Beach Unified		550 Blumont St.	Laguna Beach, CA 92651-2356
9	School District, Lakeside Union Elementary		12335 Woodside Ave.	Lakeside, CA 92040-0578
9	School District, Lemon Grove Elementary		8025 Lincoln St.	Lemon Grove, CA 91945-2515
9	School District, Mountain Empire Unified		3291 Buckman Springs Road	Pine Valley, CA 91962-4003
9	School District, Murrieta Valley Unified		41870 McAlby ct	Murrieta, CA 92562-7021
9	School District, National Elementary		1500 N Ave.	National City, CA 91950-4827
9	School District, Oceanside Unified		2111 Mission Ave.	Oceanside, CA 92054-2326
9	School District, Poway Unified		13626 Twin Peaks Road	Poway, CA 92064-3034
9	School District, Ramona City Unified		720 Ninth St.	Ramona, CA 92065-2348
9	School District, Rancho Santa Fe Elementary		5927 la Granada	Rancho Santa Fe, CA 92067-0809
9	School District, Saddleback Valley Unified		25631 Peter A Hartman Way	Mission Viejo, CA 92691-
9	School District, San Diego City Unified		4100 Normal St.	San Diego, CA 92103-2653
9	School District, San Dieguito Union High		710 Encinitas Blvd.	Encinitas, CA 92024-3357
9	School District, San Marcos Unified		1 Civic Center Dr., Suite 300	San Marcos, CA 92069-
9	School District, San Pasqual Union Elementary		16666 San Pasqual Valley Road	Escondido, CA 92027-7001
9	School District, San Ysidro Elementary		4350 Otay Mesa Road	San Ysidro, CA 92173-1617
9	School District, Santee Elementary		9625 Cuyamaca St.	Santee, CA 92071-2674
9	School District, Solana Beach Elementary		309 N. Rios Ave.	Solana Beach, CA 92075-1241
9	School District, South Bay Union Elementary		601 Elm Ave.	Imperial Beach, CA 91932-2029
9	School District, Spencer Valley Elementary		4414 Hwys. 78 and 79	Santa Ysabel, CA 92070-0159
9	School District, Sweetwater Union High		1130 Fifth Ave.	Chula Vista, CA 91911-2812
9	School District, Temecula Valley Unified		31350 Rancho Vista Road	Temecula, CA 92592-6202
9	School District, Vallecitos Elementary		5211 Fifth St.	Fallbrook, CA 92028-9795
9	School District, Valley Center-Pauma Unified		28751 Cole Grade Rd.	Valley Center, CA 92082-6599
9	School District, Vista Unified		1234 Arcadia Ave.	Vista, CA 92084-3404
9	School District, Warner Unified		30951 Hwy. 79	Warner Springs, CA 92086-0008
9	University of California	University of California, San Diego	9500 Gilman Dr.	La Jolla, CA 92093
9	Veteran Affairs	VA San Diego Healthcare System	3350 La Jolla Village Drive	San Diego, CA 92161

Areas subject to high growth or serving a population of at least 50,000 must comply with the following provisions (for counties this threshold population applies to the population within the permit area).

A. RECEIVING WATER LIMITATIONS

1. Discharges shall not cause or contribute to an exceedance of water quality standards contained in a Statewide Water Quality Control Plan, the California Toxics Rule (CTR), or in the applicable RWQCB Basin Plan.
2. The permittees shall comply with Receiving Water Limitations A.1 through timely implementation of control measures and other actions to reduce pollutants in the discharges in accordance with the SWMP and other requirements of this permit including any modifications. The SWMP shall be designed to achieve compliance with Receiving Water Limitations A.1. If exceedance(s) of water quality objectives or water quality standards (collectively, WQS) persist notwithstanding implementation of the SWMP and other requirements of this permit, the permittees shall assure compliance with Receiving Water Limitations A.1 by complying with the following procedure:
 - a. Upon a determination by either the permittees or the RWQCB that discharges are causing or contributing to an exceedance of an applicable WQS, the permittees shall promptly notify and thereafter submit a report to the RWQCB that describes BMPs that are currently being implemented and additional BMPs that will be implemented to prevent or reduce any pollutants that are causing or contributing to the exceedance of WQSs. The report may be incorporated in the annual update to the SWMP unless the RWQCB directs an earlier submittal. The report shall include an implementation schedule. The RWQCB may require modifications to the report.
 - b. Submit any modifications to the report required by the RWQCB within 30 days of notification.
 - c. Within 30 days following approval of the report described above by the RWQCB, the permittees shall revise the SWMP and monitoring program to incorporate the approved modified BMPs that have been and will be implemented, implementation schedule, and any additional monitoring required.
 - d. Implement the revised SWMP and monitoring program in accordance with the approved schedule.

So long as the permittees have complied with the procedures set forth above and are implementing the revised SWMP, the permittees do not have to repeat the same procedure for continuing or recurring exceedances of the same receiving water limitations unless directed by the RWQCB to develop additional BMPs.

B. DESIGN STANDARDS

Regulated Small MS4s subject to this requirement must adopt an ordinance or other document to ensure implementation of the Design Standards included herein or a functionally equivalent program that is acceptable to the appropriate RWQCB. The ordinance or other document must be adopted and effective prior to the expiration of this General Permit or, for Small MS4s designated subsequent to the Permit adoption, within five years of designation as a regulated Small MS4.

All discretionary development and redevelopment projects that fall into one of the following categories are subject to these Design Standards. These categories are:

- Single-Family Hillside Residences
- 100,000 Square Foot Commercial Developments
- Automotive Repair Shops
- Retail Gasoline Outlets
- Restaurants
- Home Subdivisions with 10 or more housing units
- Parking lots 5,000 square feet or more or with 25 or more parking spaces and potentially exposed to storm water runoff

1. Conflicts With Local Practices

Where provisions of the Design Standards conflict with established local codes or other regulatory mechanism, (e.g., specific language of signage used on storm drain stenciling), the Permittee may continue the local practice and modify the Design Standards to be consistent with the code or other regulatory mechanism, except that to the extent that the standards in the Design Standards are more stringent than those under local codes or other regulatory mechanism, such more stringent standards shall apply.

2. Design Standards Applicable to All Categories

a. Peak Storm Water Runoff Discharge Rates

Post-development peak storm water runoff discharge rates shall not exceed the estimated pre-development rate for developments where the increased peak storm water discharge rate will result in increased potential for downstream erosion.

b. Conserve Natural Areas

If applicable, the following items are required and must be implemented in the site layout during the subdivision design and approval process, consistent with applicable General Plan and Local Area Plan policies:

- 1) Concentrate or cluster Development on portions of a site while leaving the remaining land in a natural undisturbed condition.
- 2) Limit clearing and grading of native vegetation at a site to the minimum amount needed to build lots, allow access, and provide fire protection.
- 3) Maximize trees and other vegetation at each site by planting additional vegetation, clustering tree areas, and promoting the use of native and/or drought tolerant plants.

- 4) Promote natural vegetation by using parking lot islands and other landscaped areas.
 - 5) Preserve riparian areas and wetlands.
- c. Minimize Storm Water Pollutants of Concern
- Storm water runoff from a site has the potential to contribute oil and grease, suspended solids, metals, gasoline, pesticides, and pathogens to the storm water conveyance system. The development must be designed so as to minimize, to the maximum extent practicable, the introduction of pollutants of concern that may result in significant impacts, generated from site runoff of directly connected impervious areas (DCIA), to the storm water conveyance system as approved by the building official. Pollutants of concern consist of any pollutants that exhibit one or more of the following characteristics: current loadings or historic deposits of the pollutant are impacting the beneficial uses of a receiving water, elevated levels of the pollutant are found in sediments of a receiving water and/or have the potential to bioaccumulate in organisms therein, or the detectable inputs of the pollutant are at concentrations or loads considered potentially toxic to humans and/or flora and fauna.
- In meeting this specific requirement, “minimization of the pollutants of concern” will require the incorporation of a BMP or combination of BMPs best suited to maximize the reduction of pollutant loadings in that runoff to the Maximum Extent Practicable. Those BMPs best suited for that purpose are those listed in the *California Storm Water Best Management Practices Handbooks*; *Caltrans Storm Water Quality Handbook: Planning and Design Staff Guide*; *Manual for Storm Water Management in Washington State*; *The Maryland Stormwater Design Manual*; *Florida Development Manual: A Guide to Sound Land and Water Management*; *Denver Urban Storm Drainage Criteria Manual, Volume 3 – Best Management Practices and Guidance Specifying Management Measures for Sources of Nonpoint Pollution in Coastal Waters*, USEPA Report No. EPA-840-B-92-002, as “likely to have significant impact” beneficial to water quality for targeted pollutants that are of concern at the site in question. However, it is possible that a combination of BMPs not so designated, may in a particular circumstance, be better suited to maximize the reduction of the pollutants.
- d. Protect Slopes and Channels
- Project plans must include BMPs consistent with local codes, ordinances, or other regulatory mechanism and the Design Standards to decrease the potential of slopes and/or channels from eroding and impacting storm water runoff:
- 1) Convey runoff safely from the tops of slopes and stabilize disturbed slopes.
 - 2) Utilize natural drainage systems to the maximum extent practicable.
 - 3) Stabilize permanent channel crossings.
 - 4) Vegetate slopes with native or drought tolerant vegetation, as appropriate.
 - 5) Install energy dissipaters, such as riprap, at the outlets of new storm drains, culverts, conduits, or channels that enter unlined channels in accordance with applicable specifications to minimize erosion, with the approval of all agencies

with jurisdiction, e.g., the U.S. Army Corps of Engineers and the California Department of Fish and Game.

e. Provide Storm Drain System Stenciling and Signage

Storm drain stencils are highly visible source controls that are typically placed directly adjacent to storm drain inlets. The stencil contains a brief statement that prohibits the dumping of improper materials into the storm water conveyance system. Graphical icons, either illustrating anti-dumping symbols or images of receiving water fauna, are effective supplements to the anti-dumping message. All storm drain inlets and catch basins within the project area must be stenciled with prohibitive language (such as: “NO DUMPING – DRAINS TO OCEAN”) and/or graphical icons to discourage illegal dumping. Signs and prohibitive language and/or graphical icons, which prohibit illegal dumping, must be posted at public access points along channels and creeks within the project area. Legibility of stencils and signs must be maintained.

f. Properly Design Outdoor Material Storage Areas

Outdoor material storage areas refer to storage areas or storage facilities solely for the storage of materials. Improper storage of materials outdoors may provide an opportunity for toxic compounds, oil and grease, heavy metals, nutrients, suspended solids, and other pollutants to enter the storm water conveyance system. Where proposed project plans include outdoor areas for storage of materials that may contribute pollutants to the storm water conveyance system, the following Structural or Treatment BMPs are required:

- 1) Materials with the potential to contaminate storm water must be: (1) placed in an enclosure such as, but not limited to, a cabinet, shed, or similar structure that prevents contact with runoff or spillage to the storm water conveyance system; or (2) protected by secondary containment structures such as berms, dikes, or curbs.
- 2) The storage area must be paved and sufficiently impervious to contain leaks and spills.
- 3) The storage area must have a roof or awning to minimize collection of storm water within the secondary containment area.

g. Properly Design Trash Storage Areas

A trash storage area refers to an area where a trash receptacle or receptacles (**dumpsters**) are located for use as a repository for solid wastes. Loose trash and debris can be easily transported by the forces of water or wind into nearby storm drain inlets, channels, and/or creeks. All trash container areas must meet the following Structural or Treatment Control BMP requirements (individual single family residences are exempt from these requirements):

- 1) Trash container areas must have drainage from adjoining roofs and pavement diverted around the area(s).
- 2) Trash container areas must be screened or walled to prevent off-site transport of trash.

h. Provide Proof of Ongoing BMP Maintenance

Improper maintenance is one of the most common reasons why water quality controls will not function as designed or which may cause the system to fail entirely. It is important to consider who will be responsible for maintenance of a permanent BMP, and what equipment is required to perform the maintenance properly. As part of project review, if a project applicant has included or is required to include, Structural or Treatment Control BMPs in project plans, the Permittee shall require that the applicant provide verification of maintenance provisions through such means as may be appropriate, including, but not limited to legal agreements, covenants, CEQA mitigation requirements and/or Conditional Use Permits.

For all properties, the verification will include the developer's signed statement, as part of the project application, accepting responsibility for all structural and treatment control BMP maintenance until the time the property is transferred and, where applicable, a signed agreement from the public entity assuming responsibility for Structural or Treatment Control BMP maintenance. The transfer of property to a private or public owner must have conditions requiring the recipient to assume responsibility for maintenance of any Structural or Treatment Control BMP to be included in the sales or lease agreement for that property, and will be the owner's responsibility. The condition of transfer shall include a provision that the property owners conduct maintenance inspection of all Structural or Treatment Control BMPs at least once a year and retain proof of inspection. For residential properties where the Structural or Treatment Control BMPs are located within a common area which will be maintained by a homeowner's association, language regarding the responsibility for maintenance must be included in the project's conditions, covenants and restrictions (CC&Rs). Printed educational materials will be required to accompany the first deed transfer to highlight the existence of the requirement and to provide information on what storm water management facilities are present, signs that maintenance is needed, how the necessary maintenance can be performed, and assistance that the Permittee can provide. The transfer of this information shall also be required with any subsequent sale of the property.

If Structural or Treatment Control BMPs are located within a public area proposed for transfer, they will be the responsibility of the developer until they are accepted for transfer by the County or other appropriate public agency. Structural or Treatment Control BMPs proposed for transfer must meet design standards adopted by the public entity for the BMP installed and should be approved by the County or other appropriate public agency prior to its installation.

- i. Design Standards for Structural or Treatment Control BMPs
The Permittees shall require that post-construction treatment control BMPs incorporate, at a minimum, either a volumetric or flow based treatment control design standard, or both, as identified below to mitigate (infiltrate, filter or treat) storm water runoff:
 - 1) Volumetric Treatment Control BMP

- a) The 85th percentile 24-hour runoff event determined as the maximized capture storm water volume for the area, from the formula recommended in Urban Runoff Quality Management, WEF Manual of Practice No. 23/ ASCE Manual of Practice No. 87, (1998); or
 - b) The volume of annual runoff based on unit basin storage water quality volume, to achieve 80 percent or more volume treatment by the method recommended in California Stormwater Best Management Practices Handbook – Industrial/ Commercial, (2003); or
 - c) The volume of runoff produced from a historical-record based reference 24-hour rainfall criterion for “treatment” that achieves approximately the same reduction in pollutant loads achieved by the 85th percentile 24-hour runoff event.
- 2) Flow Based Treatment Control BMP
- a) The flow of runoff produced from a rain event equal to at least two times the 85th percentile hourly rainfall intensity for the area; or
 - b) The flow of runoff produced from a rain event that will result in treatment of the same portion of runoff as treated using volumetric standards above.

Limited Exclusion

Restaurants and Retail Gasoline Outlets, where the land area for development or redevelopment is less than 5,000 square feet, are excluded from the numerical Structural or Treatment Control BMP design standard requirement only.

3. Provisions Applicable to Individual Priority Project Categories

a. 100,000 Square Foot Commercial Developments

1) Properly Design Loading/Unloading Dock Areas

Loading/unloading dock areas have the potential for material spills to be quickly transported to the storm water conveyance system. To minimize this potential, the following design criteria are required:

- a) Cover loading dock areas or design drainage to minimize run-on and runoff of storm water.
- b) Direct connections to storm drains from depressed loading docks (truck wells) are prohibited.

2) Properly Design Repair/Maintenance Bays

Oil and grease, solvents, car battery acid, coolant and gasoline from the repair/maintenance bays can negatively impact storm water if allowed to come into contact with storm water runoff. Therefore, design plans for repair bays must include the following:

- a) Repair/maintenance bays must be indoors or designed in such a way that doesn't allow storm water runoff or contact with storm water runoff.
- b) Design a repair/maintenance bay drainage system to capture all washwater, leaks and spills. Connect drains to a sump for collection and disposal. Direct connection of the repair/maintenance bays to the storm drain system is prohibited. If required by local jurisdiction, obtain an Industrial Waste Discharge Permit.

3) Properly Design Vehicle/Equipment Wash Areas

The activity of vehicle/equipment washing/steam cleaning has the potential to contribute metals, oil and grease, solvents, phosphates, and suspended solids to the storm water conveyance system. Include in the project plans an area for washing/steam cleaning of vehicles and equipment. The area in the site design must be:

- a) Self-contained and/ or covered, equipped with a clarifier, or other pretreatment facility, and
- b) Properly connected to a sanitary sewer or other appropriately permitted disposal facility.

b. Restaurants

1) Properly Design Equipment/Accessory Wash Areas

The activity of outdoor equipment/accessory washing/steam cleaning has the potential to contribute metals, oil and grease, solvents, phosphates, and suspended solids to the storm water conveyance system. Include in the project plans an area for the washing/steam cleaning of equipment and accessories. This area must be:

- a) Self-contained, equipped with a grease trap, and properly connected to a sanitary sewer.
- b) If the wash area is to be located outdoors, it must be covered, paved, have secondary containment, and be connected to the sanitary sewer or other appropriately permitted disposal facility.

c. Retail Gasoline Outlets

1) Properly Design Fueling Area

Fueling areas have the potential to contribute oil and grease, solvents, car battery acid, coolant and gasoline to the storm water conveyance system. The project plans must include the following BMPs:

- a) The fuel dispensing area must be covered with an overhanging roof structure or canopy. The canopy's minimum dimensions must be equal to or greater than the area within the grade break. The canopy must not drain onto the fuel dispensing area, and the canopy downspouts must be routed to prevent drainage across the fueling area.

- b) The fuel dispensing area must be paved with Portland cement concrete (or equivalent smooth impervious surface), and the use of asphalt concrete shall be prohibited.
- c) The fuel dispensing area must have a 2% to 4% slope to prevent ponding, and must be separated from the rest of the site by a grade break that prevents run-on of storm water to the extent practicable.
- d) At a minimum, the concrete fuel dispensing area must extend 6.5 feet (2.0 meters) from the corner of each fuel dispenser, or the length at which the hose and nozzle assembly may be operated plus 1 foot (0.3 meter), whichever is less.

d. Automotive Repair Shops

1) Properly Design Fueling Area

Fueling areas have the potential to contribute oil and grease, solvents, car battery acid, coolant and gasoline to the storm water conveyance system. Therefore, design plans, which include fueling areas, must contain the following BMPs:

- a. The fuel dispensing area must be covered with an overhanging roof structure or canopy. The canopy's minimum dimensions must be equal to or greater than the area within the grade break. The canopy must not drain onto the fuel dispensing area, and the canopy downspouts must be routed to prevent drainage across the fueling area.
- b. The fuel dispensing area must be paved with Portland cement concrete (or equivalent smooth impervious surface), and the use of asphalt concrete shall be prohibited.
- c. The fuel dispensing area must have a 2% to 4% slope to prevent ponding, and must be separated from the rest of the site by a grade break that prevents run-on of storm water to the extent practicable.
- d. At a minimum, the concrete fuel dispensing area must extend 6.5 feet (2.0 meters) from the corner of each fuel dispenser, or the length at which the hose and nozzle assembly may be operated plus 1 foot (0.3 meter), whichever is less.

2) Properly Design Repair/Maintenance Bays

Oil and grease, solvents, car battery acid, coolant and gasoline from the repair/maintenance bays can negatively impact storm water if allowed to come into contact with storm water runoff. Therefore, design plans for repair bays must include the following:

- a) Repair/maintenance bays must be indoors or designed in such a way that doesn't allow storm water run-on or contact with storm water runoff.
- b) Design a repair/maintenance bay drainage system to capture all wash-water, leaks and spills. Connect drains to a sump for collection and disposal. Direct connection of the repair/maintenance bays to the storm drain system is

prohibited. If required by local jurisdiction, obtain an Industrial Waste Discharge Permit.

3) Properly Design Vehicle/Equipment Wash Areas

The activity of vehicle/equipment washing/steam cleaning has the potential to contribute metals, oil and grease, solvents, phosphates, and suspended solids to the storm water conveyance system. Include in the project plans an area for washing/steam cleaning of vehicles and equipment. This area must be:

- a) Self-contained and/or covered, equipped with a clarifier, or other pretreatment facility, and properly connected to a sanitary sewer or other appropriately permitted disposal facility.

4) Properly Design Loading/Unloading Dock Areas

Loading/unloading dock areas have the potential for material spills to be quickly transported to the storm water conveyance system. To minimize this potential, the following design criteria are required:

- a) Cover loading dock areas or design drainage to minimize run-on and runoff of storm water.
- b) Direct connections to storm drains from depressed loading docks (truck wells) are prohibited.

e. Parking Lots

1) Properly Design Parking Area

Parking lots contain pollutants such as heavy metals, oil and grease, and polycyclic aromatic hydrocarbons that are deposited on parking lot surfaces by motor-vehicles. These pollutants are directly transported to surface waters. To minimize the offsite transport of pollutants, the following design criteria are required:

- a) Reduce impervious land coverage of parking areas.
- b) Infiltrate or treat runoff.

2) Properly Design To Limit Oil Contamination and Perform Maintenance

Parking lots may accumulate oil, grease, and water insoluble hydrocarbons from vehicle drippings and engine system leaks:

- a) Treat to remove oil and petroleum hydrocarbons at parking lots that are heavily used (e.g. fast food outlets, lots with 25 or more parking spaces , sports event parking lots, shopping malls, grocery stores, discount warehouse stores).
- b) Ensure adequate operation and maintenance of treatment systems particularly sludge and oil removal, and system fouling and plugging prevention control.

4. Waiver

A Permittee may, through adoption of an ordinance, code, or other regulatory mechanism incorporating the treatment requirements of the Design Standards, provide for a waiver from the requirement if impracticability for a specific property can be established. A waiver of impracticability shall be granted only when all other Structural or Treatment Control BMPs have been considered and rejected as infeasible. Recognized situations of impracticability include, (i) extreme limitations of space for treatment on a redevelopment project, (ii) unfavorable or unstable soil conditions at a site to attempt infiltration, and (iii) risk of ground water contamination because a known unconfined aquifer lies beneath the land surface or an existing or potential underground source of drinking water is less than 10 feet from the soil surface. Any other justification for impracticability must be separately petitioned by the Permittee and submitted to the appropriate RWQCB for consideration. The RWQCB may consider approval of the waiver justification or may delegate the authority to approve a class of waiver justifications to the RWQCB EO. The supplementary waiver justification becomes recognized and effective only after approval by the RWQCB or the RWQCB EO. A waiver granted by a Permittee to any development or redevelopment project may be revoked by the RWQCB EO for cause and with proper notice upon petition.

5. Limitation on Use of Infiltration BMPs

Three factors significantly influence the potential for storm water to contaminate ground water. They are (i) pollutant mobility, (ii) pollutant abundance in storm water, (iii) and soluble fraction of pollutant. The risk of contamination of groundwater may be reduced by pretreatment of storm water. A discussion of limitations and guidance for infiltration practices is contained in, *Potential Groundwater Contamination from Intentional and Non-Intentional Stormwater Infiltration, Report No. EPA/600/R-94/051, USEPA (1994)*.

In addition, the distance of the groundwater table from the infiltration BMP may also be a factor determining the risk of contamination. A water table distance separation of ten feet depth in California presumptively poses negligible risk for storm water not associated with industrial activity or high vehicular traffic.

Site specific conditions must be evaluated when determining the most appropriate BMP. Additionally, monitoring and maintenance must be provided to ensure groundwater is protected and the infiltration BMP is not rendered ineffective by overload. This is especially important for infiltration BMPs for areas of industrial activity or areas subject to high vehicular traffic [25,000 or greater average daily traffic (ADT) on main roadway or 15,000 or more ADT on any intersecting roadway]. In some cases pretreatment may be necessary.

6. Alternative Certification for Storm Water Treatment Mitigation

In lieu of conducting detailed BMP review to verify Structural or Treatment Control BMP adequacy, a Permittee may elect to accept a signed certification from a Civil Engineer or a Licensed Architect registered in the State of California, that the plan meets

Attachment 4
To WQO 2003-0005-DWQ

the criteria established herein. The Permittee is encouraged to verify that certifying person(s) have been trained on BMP design for water quality, not more than two years prior to the signature date. Training conducted by an organization with storm water BMP design expertise (e.g., a University, American Society of Civil Engineers, American Society of Landscape Architects, American Public Works Association, or the California Water Environment Association) may be considered qualifying.

Communities Anticipated to be Subject to Supplemental Provisions

RWQCB	Area	Reason/Population
1	Windsor	High Growth
2	Clayton	High Growth
2	Marin County	58563
2	Napa	72585
2	Petaluma	54548
2	San Francisco	776733
2	San Rafael	56063
3	Greenfield	High Growth
3	Hollister	High Growth
3	King City	High Growth
3	Morgan Hill	High Growth
3	Nipomo	High Growth
3	Prunedale	High Growth
3	Santa Barbara	92325
3	Santa Barbara County	140453
3	Santa Cruz	54593
3	Santa Cruz County	116783
3	Santa Maria	77423
3	Soledad	High Growth
3	Watsonville	High Growth
5F	Hanford	High Growth
5F	Lemoore	High Growth
5F	Los Banos	High Growth
5F	Madera	High Growth
5F	Merced	63893
5F	Visalia	91565
5R	Chico	59954
5R	Chico	High Growth
5R	Redding	80865
5S	Davis	60308
5S	Dixon	High Growth
5S	El Dorado Hills	High Growth
5S	Lathrop	High Growth
5S	Lincoln	High Growth
5S	Oakley	High Growth
5S	Placer County	75262
5S	Ripon	High Growth
5S	Riverbank	High Growth
5S	Rocklin	High Growth

RWQCB	Area	Reason/Population
5S	Roseville	79921
5S	Roseville	High Growth
5S	Salida	High Growth
5S	South Yuba City	High Growth
5S	Stanislaus County	67145
5S	Tracy	56929
5S	Tracy	High Growth
5S	Turlock	55810
5S	Vacaville	88625
6	Apple Valley	54239
6	Hesperia	62582
6	Lancaster	118718
6	Palmdale	116670
6	Victorville	64029
6B	Lake Los Angeles	High Growth
6B	Palmdale	High Growth
6B	Rosamond	High Growth
6B	Victorville	High Growth
7	Calexico	High Growth
7	Rancho Mirage	High Growth
5S	Lodi	56999

**INSTRUCTIONS FOR COMPLETING THE NOTICE OF INTENT
TO COMPLY WITH THE TERMS OF THE GENERAL PERMIT FOR STORM WATER
DISCHARGES FROM SMALL MS4s
(WATER QUALITY ORDER NO. 2003 – 0005 - DWQ)**

I. NOI STATUS

Check box "1" if this is a new NOI submittal. Check box "2" if you are reporting changes to the NOI (e.g., new contact person, phone number, mailing address). Include the facility WDID number and highlight all the information that has been changed. The appropriate official must sign the form, certifying the changes.

II. AGENCY INFORMATION

- A. Enter the name of the agency applying for coverage.
- B. Enter the first and last name of the person familiar with the permit and responsible for permit compliance.
- C. Enter the Title of the person listed in "B".
- D. Enter the agency's mailing address.
- E. Enter if necessary the 2nd address line.
- F. Enter the agency's mailing address city.
- G. Enter the agency's mailing address zip code.
- H. Enter the county in which the agency is located. If the agency is located in more than one county, list all applicable counties. Attach additional sheets if necessary.
- I. Enter the phone number where the contact person can be reached.
- J. Enter the FAX number where the contact person can be reached.
- K. Enter the email address where the contact person can be reached.
- L. Check the box that corresponds to the agency owner.

III. Permit Area

General name of the permit area, such as the Sacramento Metropolitan Area

IV. Boundaries of Coverage

Describe the boundaries of the area to be permitted and include a site map. For a city, this would be the established city boundaries. For a county, unless the entire county is designated, the permitted area should be inclusive of the area of concern and rely on simplified boundaries for each general direction, such as rivers, major roads or highways, or an adjoining city's boundary. For non-traditional Small MS4s, in general, the property line shall serve as the permit boundary.

V. Billing Information

- A. Enter the name of the agency applying for coverage.
- B. Enter the first and last name of the person familiar with the permit and responsible for permit compliance.
- C. Enter the Title of the person listed in "B".
- D. Enter the agency's mailing address.
- E. Enter if necessary the 2nd address line.
- F. Enter the agency's mailing address city.

- G. Enter the agency's mailing address zip code.
- H. Enter the county in which the agency is located.
- I. Enter the phone number where the contact person can be reached.
- J. Enter the FAX number where the contact person can be reached.
- K. Enter the email address where the contact person can be reached.
- L. Enter the average daily-user population of the applicant's permitted area. This is not the combined permit area of co-permittees. Submit the amount indicated by the current fee schedule (California Code of Regulations, Title 23, Division 3, Chapter 9, Article 1.) with the NOI package to the Regional Board. The fee schedule may be found at www.swrcb.ca.gov/stormwtr/municipal.html. School districts are exempt from MS4 permit fees.

VI. Permit Type

Check the box that corresponds to the permitting option you wish to apply for:

Check box 1 if applying for individual general permit coverage.

Check box 2 if applying for a permit with one or more co-permittees. If you are applying to be a co-permittee, an appropriate official representing each agency who will participate in the area-wide permit must sign on the lines provided certifying the agency will be a co-permittee with the other agencies listed to implement a storm water program in the combined designated areas of each of the agency's jurisdiction. The agency to act as the Lead Agency (the entity responsible for being the main contact with the RWQCB for permit administration) shall start the list. If more than four agencies will act as co-permittees, continue the list on a separate page. The NOI must have original signatures.

Check box 3 if designating a Separate Implementing Entity and enter agency information.

- A. Enter the name of the agency applying for coverage.
- B. Enter the first and last name of the person familiar with the permit and responsible for permit compliance.
- C. Enter the title of person in "B".
- D. Enter the agency's mailing address phone number where the contact person can be reached.
- E. Enter if necessary the 2nd address line.
- F. Enter the agency's mailing address city.
- G. Enter the agency's mailing address zip code.
- H. Enter the county in which the agency is located. If the agency is located in more than one county, list all applicable counties. Attach additional sheets if necessary.
- I. Enter the phone number where the contact person can be reached.
- J. Enter the FAX number where the contact person can be reached.
- K. Enter the email address where the contact person can be reached.
- L. Check the box that corresponds to the agency owner.
- M. List all of the Minimum Control Measure(s) that will be implemented by the SIE.
- N. Certification by an appropriate SIE official that the SIE agrees to include the agency in implementing the SWMP. For a municipality, State, Federal, or other public agency the appropriate official would be a principal executive officer, ranking elected official or duly authorized representative. The principal executive officer of

a Federal agency includes the chief executive officer of the agency or the senior executive officer having responsibility for the overall operations of a principal geographic unit of the agency (e.g., Regional Administrator of USEPA).

For multiple agencies implementing different Minimum Control Measures please use a separate form for each Minimum Control Measures. A photocopy of the 2nd page of the NOI is adequate, but must have original signatures.

VII. STORM WATER MANAGEMENT PROGRAM

The SWMP must be submitted with the NOI. Check the box if the SWMP is completed and attached to the NOI. If a SIE is implementing all of the Minimum Control Measures it is not necessary to submit a SWMP.

VIII. CERTIFICATION

- A. Print the name of the appropriate official. For a municipality, State, Federal, or other public agency this would be a principal executive officer, ranking elected official, or duly authorized representative. The principal executive officer of a Federal agency includes the chief executive officer of the agency or the senior executive officer having responsibility for the overall operations of a principal geographic unit of the agency (e.g., Regional Administrator of USEPA).
- B. Enter the professional title of the person signing the NOI.
- C. The person whose name is printed in box IV.A must sign the NOI.
- D. Provide the date on which the Information Sheet was signed.

State Water Resources Control Board
NOTICE OF INTENT
TO COMPLY WITH THE TERMS OF THE GENERAL PERMIT FOR
STORM WATER DISCHARGES FROM
SMALL MUNICIPAL SEPARATE STORM SEWER SYSTEMS
(WATER QUALITY ORDER NO. 2003 – 0005 - DWQ)

I. NOI Status

Mark Only One Item	1. <input type="checkbox"/> New Permittee	2. <input type="checkbox"/> Change of Information WDID #: _____
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II. Agency Information

A. Agency			
B. Contact Person		C. Title	
D. Mailing Address		E. Address (Line 2)	
F. City	State CA	G. Zip	H. County
I. Phone	J. FAX	K. Email Address	
L. Operator Type (check one) 1. <input type="checkbox"/> City 2. <input type="checkbox"/> County 3. <input type="checkbox"/> State 4. <input type="checkbox"/> Federal 5. <input type="checkbox"/> Special District 6. <input type="checkbox"/> Government Combination			

III. Permit Area

IV. Boundaries of Coverage (include a site map with the submittal)

V. Billing Information

A. Agency			
B. Contact Person		C. Title	
D. Mailing Address		E. Address (Line 2)	
F. City	State CA	G. Zip	H. County
I. Phone	J. FAX	K. Email Address	
<p>Fees are based on the daily population served by the Small MS4. To determine your fee, consult the current fee schedule (California Code of Regulations, Title 23, Division 3, Chapter 9 Article 1), which can be viewed at www.swrcb.ca.gov/stormwtr/municipal.html.</p> <p>L. Population _____ Fee _____</p> <p>Check(s) should be made payable to the SWRCB and submitted to the appropriate RWQCB.</p> <p>SWRCB Tax ID is: 68-0281986</p>			

VI. Discharger Information (check applicable box(es) and complete corresponding information)1. ☐ Applying for Individual General Permit Coverage2. ☐ Applying for a permit with one or more co-permittees

The undersigned agree to work as co-permittees in implementing a complete small MS4 storm water program. The program must comply with the requirements found in Title 40 of the Code of Federal Regulations, parts 122.32. Attach additional sheets if necessary. Each co-permittee must complete an NOI.

Lead Agency	Signature
Agency	Signature
Agency	Signature
Agency	Signature

3. ☐ Separate Implementing Entity (SIE)

A. Agency			
B. Contact Person		C. Title	
D. Mailing Address		E. Address (Line 2)	
F. City	State CA	G. Zip	H. County
I. Phone	J. FAX	K. Email Address	
H. Operator Type (check one) 1. <input type="checkbox"/> City 2. <input type="checkbox"/> County 3. <input type="checkbox"/> State 4. <input type="checkbox"/> Federal 5. <input type="checkbox"/> Special District 6. <input type="checkbox"/> Government Combination			
Minimum Control Measures being implemented by the SIE (check all that apply) <input type="checkbox"/> Public Education <input type="checkbox"/> Public Involvement <input type="checkbox"/> Illicit Discharge/Elimination <input type="checkbox"/> Construction <input type="checkbox"/> Post Construction <input type="checkbox"/> Good Housekeeping			
<p>"I agree to coordinate with the agency identified in Section III of this form and comply with its qualifying storm water program. I certify under penalty of law that this document and all attachments were prepared under my direction and supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, to the best of my knowledge and belief, the information submitted is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment. Additionally, I certify that the provisions of the permit, including the development and implementation of a Storm Water Management Program, will be complied with."</p>			
N. Signature of Official		Date	

VII. Storm Water Management Plan (check box)☐ As per section A.2. of this General Permit, the SWMP is attached.**VIII. Certification**

"I certify under penalty of law that this document and all attachments were prepared under my direction and supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, to the best of my knowledge and belief, the information submitted is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment. Additionally, I certify that the provisions of the permit, including the development and implementation of a Storm Water Management Program, will be complied with."

A. Printed Name: _____

B. Title: _____

C. Signature: _____ D. Date: _____

STATE WATER RESOURCES CONTROL BOARD

Division of Water Quality
Attention: Storm Water Section
P.O. Box 1977

Sacramento, CA 95812-1977
(916) 341-5539 FAX: (916) 341-5543

Web Page: <http://www.swrcb.ca.gov/stormwtr/index.html>

Email: stormwater@dwq.swrcb.ca.gov

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARDS

NORTH COAST REGION (1)

5550 Skylane Blvd., Ste. A
Santa Rosa, CA 95403
(707) 576-2220 FAX: (707) 523-0135
Web Page: <http://www.swrcb.ca.gov/rwqcb1>

SAN FRANCISCO BAY REGION (2)

1515 Clay Street, Ste. 1400
Oakland, CA 94612
(510) 622-2300 FAX: (510) 622-2460
Web Page: <http://www.swrcb.ca.gov/rwqcb2>

CENTRAL COAST REGION (3)

895 Aerovista Place, Suite 101
San Luis Obispo, CA 93401
(805) 549-3147 FAX: (805) 543-0397
Web Page: <http://www.swrcb.ca.gov/rwqcb3>

LOS ANGELES REGION (4)

320 W. 4th Street, Ste. 200
Los Angeles, CA 90013
(213) 576-6600 FAX: (213) 576-6640
Web Page: <http://www.swrcb.ca.gov/rwqcb4>

CENTRAL VALLEY REGION (5S)

3443 Routier Road, Ste. A
Sacramento, CA 95827-3098
(916) 255-3000 FAX: (916) 255-3015
Web Page: <http://www.swrcb.ca.gov/rwqcb5>

FRESNO BRANCH OFFICE (5F)

1685 "E" Street
Fresno, CA 93706-2020
(559) 445-5116 FAX: (559) 445-5910
Web Page: <http://www.swrcb.ca.gov/rwqcb5>

REDDING BRANCH OFFICE (5R)

415 Knollcrest Drive, Ste. 100
Redding, CA 96002
(530) 224-4845 FAX: (530) 224-4857
Web Page: <http://www.swrcb.ca.gov/rwqcb5>

LAHONTAN REGION (6 SLT)

2501 Lake Tahoe Blvd.
South Lake Tahoe, CA 96150
(530) 542-5400 FAX: (530) 544-2271
Web Page: <http://www.swrcb.ca.gov/rwqcb6>

VICTORVILLE BRANCH OFFICE (6V)

15428 Civic Drive, Ste. 100
Victorville, CA 92392-2383
(760) 241-6583 FAX: (760) 241-7308
Web Page: <http://www.swrcb.ca.gov/rwqcb6>

COLORADO RIVER BASIN REGION (7)

73-720 Fred Waring Dr., Ste. 100
Palm Desert, CA 92260
(760) 346-7491 FAX: (760) 341-6820
Web Page: <http://www.swrcb.ca.gov/rwqcb7>

SANTA ANA REGION (8)

California Tower
3737 Main Street, Ste. 500
Riverside, CA 92501-3339
(909) 782-4130 FAX: (909) 781-6288
Web Page: <http://www.swrcb.ca.gov/rwqcb8>

SAN DIEGO REGION (9)

9174 Sky Park Court, Suite 100
San Diego, CA 92123
(858) 467-2952 FAX: (858) 571-6972
Web Page: <http://www.swrcb.ca.gov/rwqcb9>

STATE OF CALIFORNIA

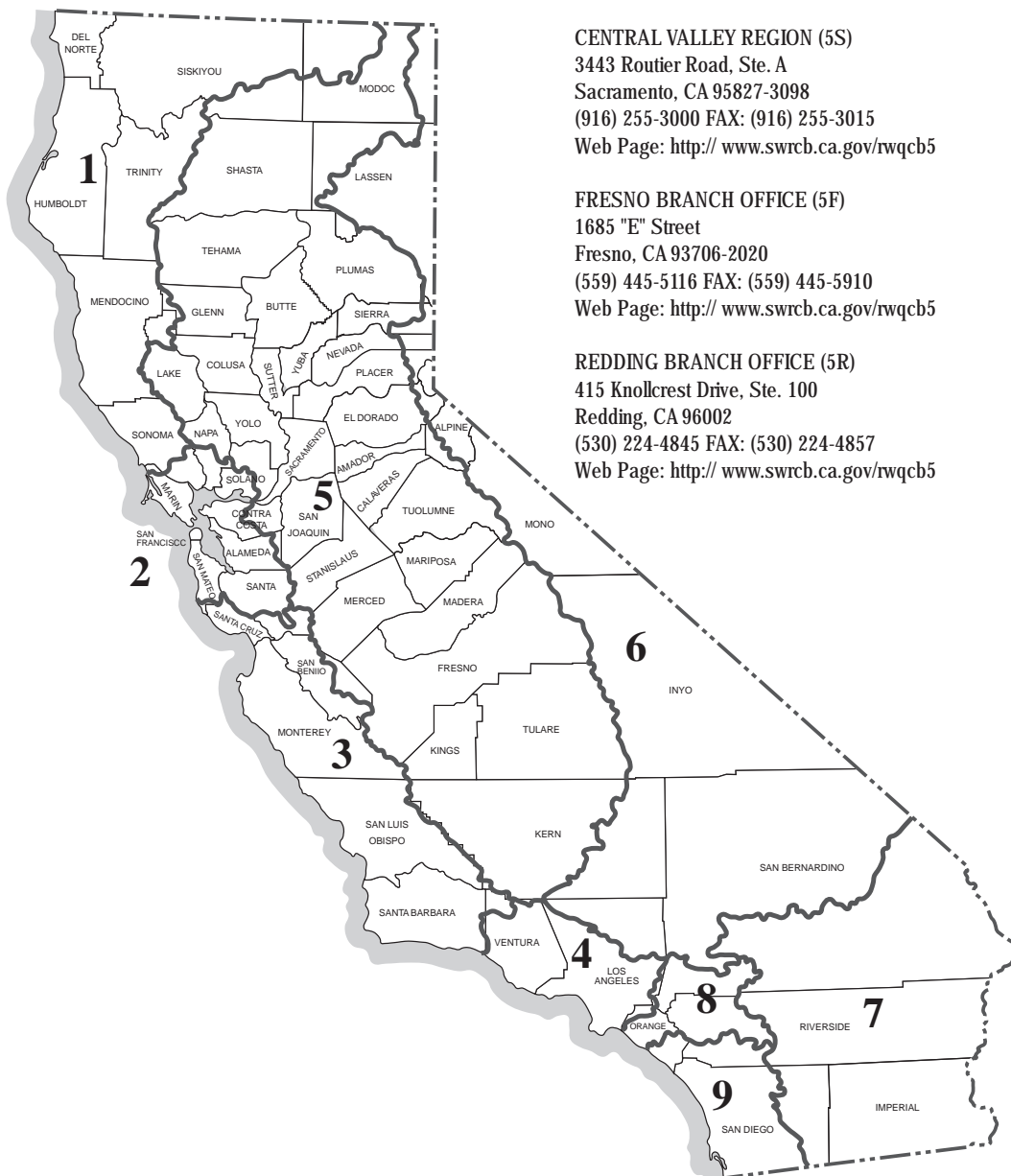
Gray Davis, Governor

CALIFORNIA ENVIRONMENTAL PROTECTION AGENCY

Winston H. Hickox, Secretary

STATE WATER RESOURCES CONTROL BOARD

Arthur Baggett Jr., Chair



Definition of Terms

1. **100,000 Square Foot Commercial Development** - 100,000 Square Foot Commercial Development means any commercial development that creates at least 100,000 square feet of impermeable area, including parking areas.
2. **Automotive Repair Shop** - Automotive Repair Shop means a facility that is categorized in any one of the following Standard Industrial Classification (SIC) codes: 5013, 5014, 5541, 7532-7534, or 7536-7539.
3. **Authorized Non-Storm Water Discharges** – Authorized non-storm water discharges are certain categories of discharges that are not composed entirely of storm water but are not found to pose a threat to water quality. They include: water line flushing; landscape irrigation; diverted stream flows; rising ground waters; uncontaminated ground water infiltration (as defined at 40 CFR §35.2005(20)) to separate storm sewers; uncontaminated pumped ground water; discharges from potable water sources; foundation drains; air conditioning condensate; irrigation water; springs; water from crawl space pumps; footing drains; lawn watering; individual residential car washing; flows from riparian habitats and wetlands; dechlorinated swimming pool discharges; and discharges or flows from emergency fire fighting activities. If any of the above authorized non-storm water discharges (except flows from fire fighting activities) are found to cause or contribute to an exceedance of water quality standards or cause or threaten to cause a condition of nuisance or pollution, the category of discharge must be prohibited.
4. **Best Management Practices (BMPs)** – Best management practices means schedules of activities, prohibitions of practices, maintenance procedures, and other management practices to prevent or reduce the pollution of 'waters of the United States.' BMPs also include treatment requirements, operating procedures, and practices to control plant site runoff, spillage or leaks, sludge or waste disposal, or drainage from raw material storage. (40 CFR §122.2)
5. **Commercial Development** - Commercial Development means any development on private land that is not heavy industrial or residential. The category includes, but is not limited to: hospitals, laboratories and other medical facilities, educational institutions, recreational facilities, plant nurseries, multi-apartment buildings, car wash facilities, mini-malls and other business complexes, shopping malls, hotels, office buildings, public warehouses and other light industrial complexes.
6. **Directly Connected Impervious Area (DCIA)** - DCIA is the acronym for directly connected impervious areas and means the area covered by a building, impermeable pavement, and/ or other impervious surfaces, which drains directly into the storm drain without first flowing across permeable land area (e.g. lawns).
7. **Discretionary Project** - Discretionary Project means a project which requires the exercise of judgement or deliberation when the public agency or public body decides to approve or disapprove a particular activity, as distinguished from situations where the public agency or body merely has to determine whether there has been conformity with applicable statutes, ordinances, or regulations.
8. **Greater than (>) 9 unit home subdivision** - Greater than 9 unit home subdivision means any subdivision being developed for 10 or more single-family or multi-family dwelling units.

9. **Hillside** - Hillside means property located in an area with known erosive soil conditions, where the development contemplates grading on any natural slope that is twenty-five percent or greater.
10. **Infiltration** - Infiltration means the downward entry of water into the surface of the soil.
11. **Measurable Goal** – Measurable goals are definable tasks or accomplishments that are associated with implementing best management practices.
12. **Minimum Control Measure** – A minimum control measure is a storm water program area that must be addressed (best management practices implemented to accomplish the program goal) by all regulated Small MS4s. The following six minimum control measures are required to be addressed by the regulated Small MS4s: Public Education and Outreach on storm Water Impacts, Public Involvement/Participation, Illicit Discharge Detection and Elimination, construction Site Storm Water Runoff Control, Post-Construction Storm Water Management in New Development and Redevelopment, and Pollution Prevention/Good Housekeeping for Municipal Operations.
13. **New Development** - New Development means land disturbing activities; structural development, including construction or installation of a building or structure, creation of impervious surfaces; and land subdivision.
14. **Offsite Facility** - An offsite facility is a geographically non-adjacent or discontinuous site that serves, or is secondary to, the primary facility and has the same owner as the primary facility. Storm water discharges from an offsite facility must be permitted if it meets the definition of a regulated Small MS4 itself. The offsite facility may satisfy this permitting requirement if the SWMP of the primary facility addresses the offsite facility, such that the permitted area of the primary facility includes the offsite area.
15. **Outfall** – A point source at the point where a municipal separate storm sewer discharges to waters of the United States and does not include open conveyances connecting two municipal separate storm sewers, or pipes, tunnels or other conveyances which connect segments of the same stream or other waters of the United States and are used to convey waters of the United States. (40 CFR §122.26(b)(9))
16. **Parking Lot** - Parking Lot means land area or facility for the temporary parking or storage of motor vehicles used personally, for business or for commerce with a lot size of 5,000 square feet or more, or with 25 or more parking spaces.
17. **Point Source** – Any discernible, confined, and discrete conveyance, including but not limited to, any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, container, rolling stock, concentrated animal feeding operation, landfill leachate collection system, vessel or other floating craft from which pollutants are or may be discharged. This term does not include return flows from irrigated agriculture or agricultural storm water runoff. (40 CFR §122.2)

18. **Regulated Small MS4** – A regulated Small MS4 is a Small MS4 that is required to be permitted for discharging storm water through its MS4 to waters of the U.S. and is designated either automatically by the U.S. EPA because it is located within an urbanized area, or designated by the SWRCB or RWQCB in accordance with the designation criteria listed at Finding 11 of the General Permit.
19. **Redevelopment** - Redevelopment means, on an already developed site, the creation or addition of at least 5,000 square feet of impervious area. Redevelopment includes, but is not limited to: the expansion of a building footprint or addition of a structure; structural development including an increase in gross floor area and/ or exterior construction or remodeling; and land disturbing activities related with structural or impervious surfaces. Where redevelopment results in an increase of less than fifty percent of the impervious surfaces of a previously existing development, and the existing development was not subject to these Design Standards, the Design Standards apply only to the addition, and not to the entire development.
20. **Restaurant** - Restaurant means a stand-alone facility that sells prepared foods and drinks for consumption, including stationary lunch counters and refreshment stands selling prepared foods and drinks for immediate consumption. (SIC code 5812).
21. **Retail Gasoline Outlet** - Retail Gasoline Outlet means any facility engaged in selling gasoline and lubricating oils.
22. **Small Municipal Separate Storm Sewer System (Small MS4)** – A conveyance or system of conveyances (including roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, man-made channels, or storm drains) that are:
- (i) Owned or operated by the United States, a State, city, town, boroughs, county, parish, district, association, or other public body (created by or pursuant to State law) having jurisdiction over disposal of sewage, industrial wastes, storm water, or other wastes, including special districts under State law such as a sewer district, flood control district or drainage district, or similar entity, or an Indian tribe or an authorized Indian tribal organization, or designated and approved management agency under section 208 of the CWA that discharges to waters of the United States.
 - (ii) Not defined as “large” or “medium” municipal separate storm sewer systems
 - (iii) This term includes systems similar to separate storm sewer systems in municipalities, such as systems at military bases, large hospital or prison complexes, and highways and other thoroughfares. The term does not include separate storm sewers in very discrete areas, such as individual buildings. (40 CFR §122.26(b)(16))
23. **Separate Implementing Entity (SIE)** – A Separate Implementing Entity is an entity, such as a municipality, agency, or special district, other than the entity in question, that implements parts or all of a storm water program for a Permittee. The SIE may also be permitted under 40 CFR Part 122. Arrangements of one entity implementing a program for another entity is subject to approval by the Regional Water Quality Control Board Executive Officer.
24. **Source Control BMP** - Source Control BMP means any schedules of activities, prohibitions of practices, maintenance procedures, managerial practices or operational practices that aim to prevent storm water pollution by reducing the potential for contamination at the source of pollution.

25. **Storm Event** - Storm Event means a rainfall event that produces more than 0.1 inch of precipitation and that, which is separated from the previous storm event by at least 72 hours of dry weather.
26. **Structural BMP** - Structural BMP means any structural facility designed and constructed to mitigate the adverse impacts of storm water and urban runoff pollution (e.g. canopy, structural enclosure). The category may include both Treatment Control BMPs and Source Control BMPs.
27. **Treatment** - Treatment means the application of engineered systems that use physical, chemical, or biological processes to remove pollutants. Such processes include, but are not limited to, filtration, gravity settling, media adsorption, biodegradation, biological uptake, chemical oxidation and UV radiation.
28. **Treatment Control BMP** - Treatment Control BMP means any engineered system designed to remove pollutants by simple gravity settling of particulate pollutants, filtration, biological uptake, media adsorption or any other physical, biological, or chemical process.

APPENDIX D

LIST OF ABBREVIATIONS AND ACRONYMS

ABBREVIATIONS AND ACRONYMS

BMP	Best Management Practice
BPJ	Best Professional Judgment
CEQA	California Environmental Quality Act
CGP	Construction General Permit
CWA	Clean Water Act (or the Federal Water Pollution Control Act)
DSP	Development Standards Plan
EPA	U. S. Environmental Protection Agency
FPPP	Facility Pollution Prevention Plan
LA	Load Allocations
LID	Low Impact Development
MEP	Maximum Extent Practicable
MS4	Municipal Separate Storm Sewer System
NAICS	North American Industry Classification System
NOI	Notice of Intent
NOT	Notice of Termination
NPDES	National Pollutant Discharge Elimination System
NTU	Nephelometric Turbidity Unit
pH	Measure of Acidity or Alkalinity
POTW	Publicly Owned Treatment Works
RWQCB	Regional Water Quality Control Board
SIC	Standard Industrial Classification
SPCC	Spill Prevention, Control, and Countermeasure
SWMP	Storm Water Management Program
SWPPP	Storm Water Pollution Prevention Plan
SWRCB	State Water Resources Control Board
TMDL	Total Maximum Daily Load
TSS	Total Suspended Solids
WLA	Wasteload Allocation
WID	Woodbridge Irrigation District
WQS	Water Quality Standard